APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

88-1420, -1424

HAWORTH, INC.,
Plaintiff-Appellant,

v.

STEELCASE, INC.,
Defendant/Cross-Appellant.

Decided: January 23, 1989

Before FRIEDMAN, NEWMAN, and BISSELL, *Circuit Judges.*

BISSELL, *Circuit Judge.*

DECISION

Haworth, Inc. (Haworth) appeals the district court's judgment, *see* 685 F. Supp. 1422, 8 USPQ2d 1001 (W.D. Mich. 1988), finding that the movable wall systems of Steelcase, Inc. (Steelcase) do not infringe claims 5 and 29 of United States Patent No. 4,370,008 ('008) or claims 18 and 26 of United States Patent No. Re. 31,733 ('733). Steelcase cross-appeals the district court's judgment that the '008 patent and the '733 patent are not unenforceable due to inequitable conduct. We *reverse-in-part, affirm-in-part* and *remand.*

OPINION

INFRINGEMENT

In holding that claim 5 of the '008 patent was not infringed, the district court found that the Steelcase panels did not include the following limitations:

1. electrical power means "formed as an integral part" of the wall system;

2. "electrical power blocks" which are "fixedly mounted" on the panels;

3. electrical power blocks which are wide enough to be "disposed substantially between" the sides of the panels; and

4. electrical connector means which, when joined to an opposed pair of "power blocks," are "disposed substantially between, or flush with" the sides of the panels. *Haworth*, 685 F. Supp. at 1445, 8 USPQ2d at 1019. The court found that claim 29 of the '008 patent was not infringed because, in addition to the above limitations, the Steelcase devices did not contain the additional limitation requiring that some of the power block means have "a conventional two- or three-conductor electrical socket associated therewith." *Id.* at 1446, 8 USPQ2d at 1019.

Claim 26 of the '733 patent was found not infringed because the accused panel electrical components did not comprise the required "boxlike" housing. Additionally, the court found that the Steelcase components did not include the claimed plug receptacles or socket means. *Id.* at 1444, 8 USPQ2d at 1018.

The district court found that the following limitations of claim 18 of the '733 patent were absent from Steelcase's panels:

1. electrical power block means which are "fixedly mounted" and "disposed directly adjacent the opposite vertical edges" of the panels;

2. electrical power block means which have "electrical socket means" associated therewith;

3. flexible electrical connector means including first and second "electrical plug means adapted for reception within the socket means" associated with the power block means; and

4. flexible electrical connector means including first and second housing elements "having cooperating hinge parts formed thereon" and defining a "substantially vertical hinge axis," and the first and second "plug means" associated with the housing elements. *Id.* at 1443, 8 USPQ2d at 1017.

"Claim interpretation, a threshold inquiry when resolving infringement, is a question of law." *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 866, 228 USPQ 90, 93 (Fed. Cir. 1985). The specific embodiments and limitations appearing in the specification should not be read into the claims. *Id.* at 867, 228 USPQ at 93. Furthermore, "[i]t is improper to read the limitations of one claim into another." *Grain Processing Corp. v. American Maize-Products Co.*, 840 F.2d 902, 911, 5 USPQ2d 1788, 1795 (Fed. Cir. 1988).

Nothing in the prosecution history, prior art or specification requires that the "formed as an integral part" and "fixedly mounted" limitations of the '008 patent's claims 5 and 29 and the '733 patent's claim 18 be restricted to non-removable power blocks. Rather, the specification discloses a power block "disposed for slidable engagement" and the use of a screw for securing the block to the panel.

The "disposed substantially between," "disposed directly adjacent" and "boxlike housing" limitations of the '008 patent's claims 5 and 29 and the '733 patent's claims 18 and 26 were incorrectly defined as filling the space between or flush with. The court improperly read this additional limitation into the claim by focusing on the

disclosed preferred embodiment and Haworth's commercial ERA 1 system which both exhibit power blocks and connectors that are flush with the panel sides.

The court also erred in construing the "socket associated therewith" language of claim 29 of the '008 patent as meaning that the socket was an integral part of a unitary power block. Again, the phrase was improperly limited to the embodiments disclosed in the Haworth specification.

The "plug" and "socket" limitations of claims 18 and 26 of the '733 patent should not have been interpreted as excluding quick connect-disconnect electrical connectors. The district court improperly read the limitations of claims 31, 38 and 43 into the asserted claims.

Finally, the court erroneously construed the "cooperating hinge parts" limitation of claim 18 of the '733 patent as limited to fixed-pivot hinge connectors. The claim was improperly confined to the hard plastic shell, fixed-pivot device disclosed in the specification and embodied in Haworth's commercial product.

After properly reconstruing the claims, Haworth's asserted claims are infringed, either literally or under the doctrine of equivalents, by Steelcase's panels. *See United States v. Telectronics, Inc.*, 857 F.2d 778, 784, 8 USPQ2d 1217, 1222 (Fed. Cir. 1988) (holding that the district court erred as a matter of law in interpreting the involved claims and concluding, without the need for a remand, that the properly reconstrued claims were infringed). Therefore, we reverse the district court's findings of non-infringement as to all the claims in suit and remand for proceedings consistent with this opinion.

INEQUITABLE CONDUCT

The finding that neither Haworth's inventors nor counsel intended to deceive the patent examiner is not clearly erroneous. The district court, accordingly, did

not abuse its discretion in concluding that inequitable conduct had not been proven. *See Kingsdown Medical Consultants, Ltd. v. Hollister Inc.*, No. 88-1265, slip op. at 19-20 (Fed. Cir. December 21, 1988) (in banc) (explaining that a basis for overturning a district court's ruling on inequitable conduct is clearly erroneous findings of fact).

COSTS

Each party is to bear its own costs.

APPENDIX B

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

88-1420, -1424

HAWORTH, INC.,
Plaintiff-Appellant,

v.

STEELCASE, INC.,
Defendant/Cross-Appellant.

Before FRIEDMAN, NEWMAN and BISSELL, *Circuit Judges.*

ORDER

A petition for rehearing having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, denied.

FOR THE COURT

/s/ Francis X. Gindhart
FRANCIS X. GINDHART
Clerk

February 17, 1989

cc: George M. Sirilla
Rudolf E. Hutz

APPENDIX C

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MICHIGAN

File No. K85-526 CA4

HAWORTH, INC.,
Plaintiff and
Counter-Defendant,

v

STEELCASE, INC.,

Defendant and
Counter-Plaintiff.

OPINION

[Filed May 17, 1988]

This is an action for patent infringement with a counterclaim for patent unenforceability and invalidity. Plaintiff, Haworth, Inc. ("Haworth"), formerly known as Haworth Mfg., Inc., is a Michigan corporation with its principal place of business in Holland, Michigan. Until about 1975, Haworth was known as Modern Partitions, Inc. and Modern Products, Inc. After 1975, the corporation was known as Haworth Mfg., Inc. In 1981, Haworth Mfg., Inc. was merged into the present Haworth, Inc. For convenience, plaintiff and its predecessors will be referred to collectively as "Haworth." Defendant, Steelcase Inc. ("Steelcase"), is a corporation with its principal place of business in Grand Rapids,

Michigan. Both parties manufacture office furniture and the instant litigation involves two Haworth patents relating to electrically pre-wired portable wall panels for use in large offices.

Haworth filed its complaint November 8, 1985, charging Steelcase with infringement of two Haworth Patents, United States Reissue Patent No. Re. 31,733 (the '733 patent) and United States Patent No. 4,370,008 (the '008 patent). Both of those patents are entitled "Wall Panel with Prewired Power System." The inventors named in both patents are Richard G. Haworth, Charles J. Saylor and Harold R. Wilson. Haworth argues that claims 8 and 26 of the '733 patent and claims 5 and 29 of the '008 patent are infringed by Steelcase's Series 9000 and Valencia panels. Claims 5 and 29 of the '008 patent are also asserted against Steelcase Moveable Wall Panels.

At all relevant times, Haworth has been and is the owner of the '733 patent in suit which was granted November 13, 1984, on application Serial No. 43,908, filed May 30, 1979, as an application for reissue of United States Patent No. 4,060,294 (the '294 patent). The '294 patent was granted November 29, 1977, on application Serial No. 615, 506, filed September 22, 1975. At all relevant times, Haworth has been and is the owner of the '008 patent in suit which was granted January 25, 1983, on application Serial No. 142,911 filed April 23, 1980, as a continuation of application Serial No. 918,278 filed June 22, 1978 and now abandoned. The latter abandoned application was a continuation of application Serial No. 737,420, filed November 1, 1976, and now abandoned. That latter application, in turn, was a continuation-in-part ("C-I-P") of the aforesaid application Serial No. 615,506, filed September 22, 1975, that became the '294 patent. A terminal disclaimer was filed in connection with the '008 patent so that it will expire on the same

day as the '733 patent in suit, namely, November 29, 1994.

Steelcase's answer of January 17, 1986, denied validity, infringement and enforceability of the two patents in suit. Additionally, Steelcase counterclaimed for judgment holding the patents in suit invalid, not infringed and unenforceable. Haworth's reply of February 5, 1986, denied all substantive allegations in Steelcase's counterclaim.

Background Facts

The subject matter disclosed in each of the patents in suit is a portable panel used in office building evironments to form wall or partition structures defining "work stations." The Haworth panels are designed to be flexibly arranged so that a given assembled configuration of panels can be altered, without electrically disconnecting adjacent panels from each other. Each of the panels includes a pre-wired power system that allows any panel to be electrically connected to any adjacent panel by means of electrical components arranged within the confines of the panel and at the panel base. The electrical components in the pre-wired power system are the technological focus of this litigation. The design of the components illustrated in the patents was intended by the inventors so that each powered panel would be non-handed, and so that they neither required nor permitted the use of extension cords for electrically interconnecting one panel to other panels. This design was intended to attain Code[1] approval in major cities throughout the country.

In June, 1976, Haworth introduced to the market its wall panels having a pre-wired power system. Those panels

[1] The term "Code" refers to the National Electric Code and to variations of it adopted in some major jurisdictions where office furniture systems find larger markets, such as New York, Chicago, Boston, Los Angeles and San Francisco.

were commercially designated "ERA 1."[2] The ERA 1 system was commercially successful. The first prototype of the ERA 1 power system was made in early 1976.[3] It was a single-circuit, three-wire system.

Steelcase was then, and is now, the world's largest manufacturer of office furniture.[4] Since then, Haworth has become a major competitor of Steelcase's. Haworth is now the third largest manufacturer of systems office furniture, ranking behind Steelcase and Herman Miller. Haworth now markets wall panels with pre-wired power systems under three different trademarks or commercial designations: ERA 1, TRICIRCUIT, and THE POWER BASE.[5]

This action arose as a result of the manufacture, use and sale by Steelcase, since 1978, of pre-wired power systems for wall panels identified by the commercial designations: "Series 9000", "Movable Walls", and "Valencia." The accused Series 9000 panels were first introduced to the market in June 1978. The accused "Movable Walls" panels with their current power system were introduced to the market around 1982. The accused "Valencia" panels with a power system were first introduced to the market around 1983.[6]

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[2] The ERA 1 system was introduced at an annual trade show, held in Chicago and known as NEOCON. The name NEOCON is derived from the name "National Exhibition of Contract Furniture Manufacturers."

[3] Saylor, Trial Transcript ("Tr.") at 448-49. The initial decision to manufacture a pre-wired panel appears to have been made in late 1974. Saylor Tr. at 395; Joint Exhibit ("JX") 1055. Design and development of the system continued throughout 1975 and the first six months of 1976.

[4] Amended List of Stipulated Facts ("SF") 12.

[5] SF 12-14.

[6] SF 14.

The Haworth Inventions

By at least 1974, Haworth perceived a need for a pre-wired power system for panels in the open office plan that would meet the requirements of the National Electric Code and local Code authorities in important cities throughout the country. Haworth decided to develop such a system. In 1974 and 1975, Harold VandenHoek was Director of Engineering at Haworth. VandenHoek Tr. at 1181-82. Charles J. Saylor was hired by Haworth in the latter part of 1974. Saylor Tr. at 392. Mr. Saylor's assignment was to work in the design and development of a satisfactory pre-wired power system for panels. *Id.*

Some of the important early Haworth conceptual decisions were that the pre-wired power system had to be nonhanded,[7] that power could flow in either direction through the panel, and that each panel could be a "feeder panel" capable of receiving building power input at either end. JX 1055; SF 33(a)-(g). The Haworth panel system was designed to require a licensed electrician only for initially connecting the pre-wired electrification in the panels to the building power. It was also designed so that, when initially assembling and later rearranging

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[7] The term "non-handed" means that electricity may flow through the components from either direction, depending upon the location of the power source. A "handed" connection is the opposite of a "non-handed" connection. An example of a "handed" electrical connection is a conventional extension cord. In such a device, electricity may flow in only one direction—from the plug, or male end, which is connected to the power source, toward the socket, or female end. If one wished to preserve the sexual metaphors so often utilized in describing electrical components, one could refer to a non-handed connection as "bi-sexual," since it has no distinct directional preferences, and to non-handed components as "androgynous," since they are neither male nor female, in the conventional sense of those terms. For convenience, however, this Opinion will use the more traditional, albeit sexist, vocabulary commonly employed in the field and at trial.

the panels into different work station configurations,[8] as needed, it was not necessary to initially hard-wire the panels after they were assembled together, or to disconnect and remove the wires in the panels prior to disassembly of these panels and then reinstall the conduit and wiring after the panels had been rearranged. SF 33(a).

As conceived by the Haworth Inventors, their prewired power system included two key non-handed components, so-called "power blocks" and "flexible electrical connectors." The power blocks were at the heart of their system because of the many features they were designed to provide (the term "power block" was coined by the Haworth inventors). Saylor Tr. at 409. There were two power blocks in each powered panel with the flexible electrical connector being designed to be removably, electrically connected between the power blocks of adjacent panels.

The power blocks disclosed in the patents in suit: (i) had an opening at their inner end for receiving the electric wires or cables that extended between power blocks in the panel base (through a channel referred to as a "raceway") so that the two power blocks in each panel were in electrical communication with each other; (ii) had a first connection means for releaseable electrical connection to the flexible electrical connector to electrically connect the power block of one panel to the power block of an adjacent panel; (iii) had a second connection means that was identical to the first electrical connection means, and arranged on the other side of the power block, for connection to a second flexible electrical connector, as would be required for connecting the power block of that panel to the power block of a third panel, for example, in a T or Y configuration of panels; (iv) had an external third electrical connection means in the

[8] A "work station" is the open office equivalent of an office, with the walls being defined by free-standing panels.

form of a conventional receptacle for energizing electrical equipment to be utilized at the word station; (v) had a housing enclosing the necessary, internal wiring and electrical members for electrically connecting the wires running between the ends of the panel with the various connection means associated with the power block; and (vi) had means for bringing building power into the panel and for being hard wired at the other end, by a licensed electrician, to a floor monument or junction box in the building. SF 33(c).

The power blocks and flexible connectors made the system non-handed so that each panel could be a feeder panel, yet be conveniently plugged into by the flexible electrical connectors, to electrically connect one panel to another, and with the panels being arranged either in line, or in an "L", "T", or "X" configuration. The power block permitted power to flow in either direction through the panel. A raceway structure was provided at the base of the panel to enclose the wiring yet provide a separate, isolated passageway for communication cables. The panels were mechanically hinged together by a separate plastic panel hinge in the manner of Haworth's prior non-powered panels.

When attached to adjacent panels, electrically connecting them toegther, the flexible connector had the capability of hinging approximately along the same vertical axis as the plastic mechanical panel hinge for the panels so that two mechanically and electrically connected panels could be pivoted or moved angularly, one relative to the other, without having to disconnect or modify the flexible electrical connector. This ability to pivot two connected panels about their panel hinge connection, while leaving the flexible electrical connector in place, provided flexibility for installation and reconfiguration of the panels.

In April 1975, Haworth decided that additional technical assistance and design help were needed for the project. Harold Wilson was thereafter hired as a "contract"

employee by no later than May 1975. SF 35; Wilson Tr. at 111-12. After being advised about the ideas for prewired panels which Messrs. Haworth and Saylor had been working on, Mr. Wilson then made a drawing showing a flexible connector and power blocks. Plaintiff's Exhibit ("PX") 1036. Wilson then designed a two-part plastic flexible connector with wires inside and a fixed pivot axis around which the two plastic parts hinged. PX 324, 375. The latter evolved into Haworth's ERA 1 flexible connector. Three versions of that flexible connector are illustrated in the drawings of all Haworth's patent applications leading to the two Haworth patents in suit.

Richard Haworth and Charles Saylor met May 30, 1975, with Haworth's patent counsel, Dale Thiel, a registered patent attorney from Kalamazoo, Michigan. SF 36. During that meeting, Thiel was given drawings of the Haworth developments and was instructed to prepare a patent application. JX 1004, p. 60; PX 1036; JX 1030-31. Thiel then proceeded to have patent drawings made. Thiel Tr. 1834-39.

Meanwhile, Messrs. Haworth, Saylor, and Wilson were proceeding with further developmental and refinement work. That work led to some modifications of the structures shown in the drawings provided to Thiel at the May 30, 1975 meeting. Drawings for those modifications were given to Thiel and he continued with the patent application so that it included the modifications. By late summer 1975 the application was revised to include further refinements, and the application was filed on September 22, 1975, listing only Messrs. Haworth and Saylor as inventors. It was identified as Serial No. 615,506. It illustrated a wall system including panels hinged together, each panel having two power blocks fixedly mounted adjacent to each end, which could be electrically connected by a hinging flexible connector. SF 37.

On or about August 4, 1976, Dale Thiel, after due investigation, amended the Haworth September 22, 1975

patent application Serial No. 615,506 to include Wilson as a co-inventor. SF 38. Mr. Wilson did not start to work on the ERA 1 project until after he joined Haworth as a "contract" employee by no later than late May 1975. Wilson Tr. 111-12. Mr. Wilson was not hired as a regular Haworth employee until early August 1975. *Id.* On July 1, 1976, all three named inventors signed a Declaration that they were joint inventors of the "improvement in WALL PANEL WITH PREWIRED POWER SYSTEM described and claimed" in the first application. JX 1004, pp. 58-70. The application was issued on November 29, 1977, as Haworth's '294 patent. DX 1107, 1109, 1110; PX 324, 375, 425, 426, 429, 1039; JX 1001. This is the original Haworth patent on its pre-wired power system for panels. It is not in suit because on May 30, 1979, Haworth filed a patent application to reissue that patent under the provisions of the patent statute, 35 U.S.C. § 251. That application led to the Haworth '733 reissue patent that is asserted in this litigation.

By late 1975, Harold Wilson started to travel around the country visiting various local Code authorities, city inspectors and the like in important cites to determine whether the ERA 1 concepts would be acceptable. SF 40; Wilson Tr. at 121, 134. He concluded from those visits that they would be. Wilson's visits further indicated to him that one of the February 1975 Haworth partial concepts might have some difficulty gaining the approval of local Code authorities because it incorporated a bendable strap in the central portion of the flexible electrical connector. Wilson Tr. at 134. That portion of the connector is exposed to potential impacts during use, such as from movement of mail carts, chairs, vacuum cleaners and the like. Bearing this in mind, Wilson decided it would be safer, in the first instance, to use a stiffer and harder structure for the central, hingeable portion of the flexible electrical connector which would stand a better chance of being accepted by the local Code authorities. It would be better, he concluded, to err on the side of using a more

rugged design and high impact-resistance characteristics for the flexible connector.[9] SF 41.

The power blocks as originally designed by Haworth included a plug receptacle, or convenience electrical outlet, on each side, so each pre-wired panel would have four receptacles along its base, two on each side of the panel. Haworth later realized that it was not always advisable or necessary to have four receptacles for each pre-wired panel. A lesser number or none might be called for, for a particular panel or panels, in given work stations. Haworth made a design change in the power blocks and sold other versions thereof that had no receptacles on either side, or a receptacle on only one side. Haworth is still selling these versions of its power block with the ERA 1 panels. By around late 1976, Haworth was offering power blocks that each included one receptacle on each side, or only one on one side, or none on each side. Such power blocks were not installed until after Haworth received listing from Underwriters' Laboratories ("UL") in January, 1977. SF 47, 48; Wilson Tr. at 159-62.

In connection with the early sales and commercial use of the ERA 1 panels, Wilson received information that the users wanted more electrical capacity than the three-wire, single circuit provided by ERA 1. This was because the majority of buildings in this country then had three phase 208/120 volt wiring systems that allowed the use of a five-wire, three circuit system. In early 1977, Wilson undertook the design of a five-wire, three circuit modification of ERA 1. Wilson developed it sufficiently so that patent application Serial No. 854,685 was filed thereon in the PTO by November 25, 1977. A continuation of that application, Serial No. 56,198, issued on March 22, 1983, as United States Patent No. 4,377,724,

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[9] Another modification made to insure Code approval, and listing by Underwriter's Laboratories ("UL") involved abandoning the original "shrouded" electrical connections in favor of a bridging plate connection. Wilson Tr. at 133-36.

entitled "Space Divider Wall Structure with Multiple Circuit Power System." SF. 49.

The earlier November 1977 Wilson patent application disclosed the advantages of a five-wire, three-circuit system adapted for the 208 volt, three-phase building power system while also being adaptable for use with the four-wire 220 volt single phase building power system. The Wilson patent application noted that multiple circuits increase the number of panels that can be effectively, electrically connected in series, thus permitting the panel wall structure to be used in much larger areas with fewer power inputs while, at the same time, providing sufficient receptacles. SF 50.

Haworth had done design work and filed a patent application on a multiple circuit panel before Steelcase introduced its four wire, dual circuit panel in 1978. Westinghouse also introduced a two circuit panel system in 1978.[10] Haworth introduced its five-wire, three-circuit improvement to ERA 1 at the June 1979 NEOCON show. It was called TRICIRCUIT. Then, at the June 1986 NEOCON show, Haworth introduced its eight-wire, three-circuit improvement, called THE POWER BASE.

The Accused Products

Like Haworth, Steelcase recognized the need for a flexible, pre-wired panel system in the early 1970's. Among its early offerings was a "hard wired" panel system known as Movable Walls. While these panels passed code standards, they were inconvenient to rearrange because a licensed electrician had to be employed to remove and reassemble the power system.

Richard Driscoll, a Steelcase engineer, was assigned the project of pre-wiring the Steelcase Movable Walls

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[10] After the Steelcase and Westinghouse products were introduced, Haworth accelerated its efforts to develop a five-wire, three-circuit version of ERA 1. SF 51.

panels. Driscoll Tr. 2406-07; SF 54. The fundamental design work for that system was completely independent of the Haworth ERA 1 panels. The Steelcase Movable Walls pre-wired panel is disclosed in a Steelcase patent No. 4,135,775, naming Mr. Driscoll as the inventor. PX 10. The panels of the Driscoll invention were the first Steelcase pre-wired panels. The Driscoll invention was introduced at the June 1977 NEOCON show. It was made and sold commercially by Steelcase for about five years under the name Movable Walls. SF 55.

A primary objective for the Driscoll invention was the provision of a horizontal power distribution system within the base of the two-inch Steelcase Movable Walls panel which would give maximum, functional flexibility with minimum modification to the present product line and be either factory or field installed. The system had to be listed by U.L. and also be in compliance with the National Electric Code, local electrical inspection codes and accepted by inspection authorities in metropolitan areas. SF 56.

The electrical system designed by Driscoll used readily available electrical components. It had an outlet box at the base of the panel, having two conventional receptacles on each side at the bottom of the panel and a conventional BX cable (that includes a flexible metallic sheath around the wiring) for electrically connecting one panel to another. It used three wires providing a single circuit. The BX cable connector had conventional non-handed electrical connectors (so-called "Anderson connectors") on each end for connecting to mating non-handed connectors at each end of the outlet box. The Driscoll power system contemplated having a licensed electrician hard-wire the panel pre-wiring to building power. Steelcase discontinued the commercial manufacture and sale of the Driscoll system in 1982, before Haworth's '008 patent issued in 1983. The Driscoll system is not accused of infringing the Haworth '733 reissue patent. SF 58-59.

After Steelcase saw the Haworth ERA 1 panels at the June 1976 NEOCON show it accelerated its efforts to design a pre-wired panel for its Series 9000 line. In August 1976, Steelcase formalized its efforts by a new project identified as Project No. P-219 to develop the Series 9000 load bearing panels including a pre-wired power system. PX 83; SF 60.

The design and development work for the electrical distribution system for the Series 9000 panel was done mainly by Steelcase employees Robert Mohr, Harold VandenHoek and Larry Speet. SF 61. In January of 1976, Haworth fired Mr. VandenHoek, who had been Haworth's Director of Engineering while the ERA 1 panels were being developed. VandenHoek Tr. at 1182-84; R. Haworth Tr. at 1790-1792. While at Haworth, VandenHoek had access to the design work which resulted in the ERA 1 system and to Haworth's draft application for the '294 panel. *Id.* VandenHoek eventually found employment with Stow & Davis, another furniture company in the Grand Rapids area. VandenHoek Tr. at 1185. Stow & Davis was acquired by Steelcase in the 1980's. SF 61. Steelcase interviewed VandenHoek again in August 1976 and thereafter hired him from Stow & Davis. Mr. VandenHoek started work on the Series 9000 panel system project P-219 in September 1976. VandenHoek Tr. at 1192. He was placed in charge of that project. SF 61; VandenHoek Tr. at 1193-94, 1197.

VandenHoek then sought to hire Harold Wilson. Wilson was contacted and interviewed by Steelcase personnel. Steelcase then offered Wilson a job. At first Wilson accepted, but later withdrew his acceptance. Defendant's Exhibit ("DX") 1127; Wilson Tr. at 1474. He elected to remain with Haworth, and he is still with them at this time. SF 62. There was no evidence that Steelcase attempted to obtain Haworth "trade secrets" from either VandenHoek or Wilson, nor was there any evidence indi-

cating that either gentleman disclosed such secrets to Steelcase.[11]

Before Wilson was approached by Steelcase, Wilson interviewed Larry Speet, a prior work acquaintance of Wilson's. Wilson needed a designer to assist him and he thought Speet was a good candidate. A meeting took place at Haworth. Wilson briefly referred Speet to the ERA 1 panels. After Wilson accepted Steelcase's offer, he telephoned Speet and asked him if he would be interested in working with him at Steelcase. Speet said he was interested. During his interview with Steelcase personnel, Wilson had mentioned Speet's name as a competent designer. After Wilson withdrew his acceptance of employment with Steelcase, VanderHoek interviewed Larry Speet. Speet was then hired by Steelcase in November, 1976. He was assigned to help design the electrical components for the new pre-wired panels for the Series 9000 line. Speet Tr. at 2181; SF 63.

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[11] Mr. Wilson testified that he was "very determined" not to reveal confidential information concerning Haworth's products or designs to Steelcase. Wilson Tr. 1474-75. He further testified that the Steelcase representatives who interviewed him made no effort to obtain such information. *Id.* at 1475; VandenHoek Tr. at 1266-67.

Similarly, although Steelcase was aware of Mr. VandenHoek's prior employment with Haworth, his precise duties there and the details of the ERA 1 project were not discussed during his job interviews with Steelcase. VandenHoek Tr. at 1190, 1192. His resume and employment application given to Steelcase do not specifically mention his work on the ERA 1 project, nor do the notes taken by his interviewers indicate a specific or detailed discussion of that work. PX 89' Mohr Tr. at 2322-29. Mr. VandenHoek also testified that he attempted to steer Steelcase's designer, Larry Speet, away from the Haworth invention whenever he believed Speet's designs were too close to Haworth's. Mr. VandenHoek testified that he did not disclose the details of the Haworth invention of which he was aware to Speet. VandenHoek Tr. at 1274-75. In general, I found no factual support for the argument (or intimation) that Steelcase obtained and used confidential information regarding the Haworth design in the development of the accused products.

Speet worked with VandenHoek and Mohr on the Series 9000 panel project. During that time, and in the latter part of 1976, Speet saw literature at Steelcase on the Haworth ERA 1 pre-wired panel. Speet Tr. at 2183. By around June of 1977 he also saw a Haworth ERA 1 pre-wired panel at Steelcase.[12] Speet Tr. at 2184-2188. The Haworth literature Speet saw was a Haworth brochure and the physical panel he saw was a Haworth ERA 1 small panel with full size electrical components. Speet looked at the Haworth ERA 1 brochure several times and examined it closely during the course of his design work on the pre-wired system for the Series 9000 panel. SF 65. Other Steelcase personnel analyzed the Haworth ERA 1 pre-wired panels from different technical and marketing aspects, including estimating the cost to make that panel. SF 66.

The accused Steelcase Series 9000 panels utilize a plastic hinge strip for mechanically interconnecting panels so that two adjacent and interconnected panels may be pivoted relative to each other about the substantially vertical plastic hinge strip between the panels. That pivoting can occur while the flexible electrical connectors are in place. Steelcase's Movable Walls and Valencia panels utilize different structures for mechanically connecting adjacent panels to one another, including metal brackets, instead of a plastic hinge strip. Steelcase designed the pre-wired power system for the Series 9000 so that it used specially-designed electrical components. Series 9000 was a four-wire system, and the convenience receptacles were removable. The four wires provide a second circuit, for lighting. SF 67-68.

Steelcase introduced its four wire, two circuit Series 9000 panel at the NEOCON show in June of 1978. This panel was an addition to Steelcase's existing line of

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[12] The parties agree that it is common practice in the office furniture industry both to hire employees from competitors and to obtain competitors' products in the marketplace for study.

Series 9000 furniture, which had been introduced in the early 1970's and included desks, end panels, credenzas, spanner panels,[13] and the like. Steelcase had always intended that structural load-bearing panels would be added to the Series 9000 line, and that they would be electrically powered. SF 70.

In 1981, Steelcase introduced a five wire, three circuit version of the Series 9000 pre-wireable panel. The relevant features of the five wire system are in other respects the same as the 1978 four wire version of Series 9000. By 1982, Steelcase had replaced the pre-wired power system of the Driscoll invention for its Movable Walls with a modified version of the Series 9000 electrical components. The pre-wired power system of the Series 9000 was a more versatile system and more cost effective than the Driscoll invention. In October 1983, Steelcase introduced its Valencia brand pre-wireable panels, which utilize the Series 9000 type of electrical components. For all relevant purposes, the infringement issues for the Valencia panels as to the pre-wired power system are substantially the same as for Steelcase's Series 9000 panels. Steelcase introduced an eight wire system (three circuits, plus a "dedicated" computer circuit) at the June 1985 NEOCON show. With respect to the four patent claims asserted by Haworth, the infringement issues are substantially the same as with the earlier Series 9000 panels. The Series 9000 line of systems furniture of Steelcase is the top selling line among all of the Steelcase products. The accused Series 9000 panels are a very successful product. Steelcase's sales of the Series 9000 line would be reduced if it did not include an acceptable pre-wired panel. SF 72-77.

With this background, the Court will analyze the three issues presented in the following order: (1) validity;

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[13] Spanner panels are not structural panels, as are the ERA 1 and accused panels, because spanner panels are not designed to support hang-on components such as work surfaces or bookcases.

(2) infringement; and (3) unenforceability. In general, the discussion will first address my conclusions of law on these issues and then make findings of fact particularly relevant to each issue. In summary form, my conclusions are as follows: (1) Steelcase failed to prove that either patent in suit is invalid for obviousness or for vagueness; (2) Haworth failed to prove that any of the asserted claims are infringed by the accused devices; and (3) Steelcase failed to prove that either patent is unenforceable for inequitable conduct. Any conclusion of law which may be considered in whole or in part as a finding of fact and any finding of fact which may be considered in whole or in part as a conclusion of law shall be so treated as if set for under the appropriate heading.

Validity

Steelcase argues that the patents in suit are invalid for basically two reasons. First, Steelcase argues that the patented devices are obvious in light of the prior art. Second, Steelcase argues that the patent claims at issue here are "too vague" to particularly point out and distinctly claim the invention. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 449, 453 (Fed. Cir. 1985); 35 U.S.C. §§ 112, 282(3).

Conclusions of Law: Obviousness.

35 U.S.C. § 232 provides that, "A patent shall be presumed valid. . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." As the Federal Circuit has held many times, "[T]he burden of proving invalidity [is imposed] on the attacker. That burden is constant and never changes and is to convince the court of invalidity by clear evidence." *American Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1360 (Fed. Cir. 1985); *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1359 (Fed. Cir. 1983). Therefore, Steelcase bears

the burden to show invalidity by clear and convincing evidence. *Alco Standard Corp. v. Tennessee Valley Authority*, 808 F.2d 1490, 1498 (Fed. Cir. 1986).

The trial court is required under section 282 to "say only whether the patent challenger carried its burden of establishing invalidity." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1569 (Fed. Cir. 1987), *cert. denied*, 95 L.Ed.2d 843, 107 S.Ct. 2187 (1987). The Federal Circuit has recognized that "when the prior art before the Court is the same as that before the PTO, the burden on the party of asserting invalidity is more difficult to meet." *Bausch & Lomb, Inc. v. Barnes-Hind Hydrocurve Inc.*, 796 F.2d 443, 447 (Fed. Cir. 1986); *Hughes Aircraft*, 717 F.2d at 1359. When the prior art relied on by the attacker adds nothing material to that considered by the Patent and Trademark Office ("PTO") examiner,[14] the attacker has the "added burden of overcoming the deference that is due to a qualified governmental agency presumed to have properly done its job," since the PTO examiners are "presumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art," and since it is their duty to issue only valid patents. *American Hoist & Derrick*, 725 F.2d at 1359. Moreover, where, as here, there was a contested, adversarial proceeding in which the defendant fully participated as a protestor, and the prior art evidenece at trial was cumulative of the PTO proceedings, a lower court does not err in giving the PTO's decision the deference that is due to a qualified governmental agency. *Windsurfing*

[14] As I will discuss with greater specificity in the unenforceability section of this Opinion, I find that the PTO fully considered all the relevant and material prior art, if not in the proceedings on the '294 patent, then in the subsequent reissue and continuation proceedings and its special investigation into the inequitable conduct issue. Therefore, I can find no ground to question the PTO's conclusion of non-obviousness, or to accord it less evidentiary weight than it would otherwise merit.

International Inc. v. AMF Inc., 782 F.2d 995, 998-99 (Fed. Cir. 1986), *cert. denied*, 91 L.Ed.2d 565, 106 S.Ct. 3275 (1986); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1339 (Fed. Cir. 1985).

The Federal Circuit recently summarized the appropriate standards governing the obviousness inquiry in *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044 (Fed. Cir. 1988). In that case, the court held:

> Obviousness under 35 U.S.C. § 103 is a legal conclusion involving a preliminary determination of four factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any, of nonobviousness. Secondary considerations include objective indicia of nonobviousness such as commercial success, long-felt but unresolved need and failure of others.
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> . . .
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> The obviousness standard, while easy to expound, is sometimes difficult to apply. It requires the decisionmaker to return to the time the invention was made. "The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time. . . . That which may be made clear and thus 'obvious' to a court, with the invention fully diagrammed and aided . . ." by experts in the field, "may have been a breakthrough of substantial dimension when first unveiled." *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).
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> . . .
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> "When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the

> invention itself." *Interconnect Planning Corp.*, 774 F.2d at 1143. . . . Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Lindemann Maschinenfabrik Gmb v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462 (Fed. Cir. 1984).

Uniroyal, 837 F.2d 1050-51. *See also, Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1987); *Alco Standard Corp. v. Tennessee Valley Authority*, 808 F.2d 1490, 1498 (Fed. Cir. 1986); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983).

1. *Level of Ordinary Skill in the Art.*

Several factors must be considered in determining the level of ordinary skill in the art. These include: (1) the educational level of the inventor; (2) the type of problems encountered in the prior art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) the sophistication of the technology; and (6) the educational level of active workers in the field. *Environmental Designs, Ltd. v. Union Oil of California*, 713 F.2d 693, 696-97 (Fed. Cir. 1983); *Orthopedic Equipment Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381-82 (Fed. Cir. 1983).

Persons devising panel pre-wiring in the mid 1970's required no specialized training in pre-wiring of office divider panels. They would have needed some basic understanding of electrical and mechanical engineering, but would not have needed advanced training in either field. They need to have only a basic understanding of general wiring and electrical component skills. In designing such a system, they would have studied commercialiy available products and literature, used the National Electric Code as a design guide, consulted with Underwriters Laboratories and other code personnel to insure that their de-

signs would receive approval and then redesign their system accordingly until the distribution and safety problems were solved. Siegel Tr. 691-93; R. Haworth Tr. 1636-41; VandenHoek Tr. 1203-04, 1214-17; Speet Tr. 2224; Wilson Tr. 330-33, 349-50; Saylor Tr. 459-61; Mohr Tr. 2367-68. They would also have studied the then-current needs of the business community to determine the features which their system should possess in order to achieve market success. Siegal Tr. 691-94; Saylor Tr. 393-97; VandenHoek Tr. 1220-21.

In the mid 1970's several basic problems confronted office furniture manufacturers. With the acceptance of the open-office concept [15] and the growing use of electric office appliances such as typewriters, computers and calculators, the need arose to develop a system for bringing power to many work stations arranged in a large, open office and to do so in such a manner that work stations could be rearranged quickly and inexpensively. Stipulated Facts 16, 20, 28. The National Electric Code and most local building codes also contained safety regulations which prohibited, among other things, the use of flexible cords. Stipulated Facts 16-19. Thus, there was a need to provide power to the work stations without using an abundance of extension cords in order to maintain proper safety standards. Finally, the use of extension cords and other temporary devices for power distribution was objectionable because they were unsightly and because they were often inconveniently underfoot for office personnel. Siegal Tr. at 695.

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[15] The open office concept was introduced in this country in the 1960's. This interior design concept replaced conventional walls, desks, chairs and filing cabinets with free-standing office divider panels in combination with work surfaces, storage and seating components. As indicated above, many of these panels were designed so that the work surfaces and other components could be hung on the panels. The panels are used to define the work space assigned to various employees.

The then-current solutions to these needs included "wire managers" or troughs to house extension cords and communication cables, floor monuments and power poles, outletstrips (which provided a flexible cord with a plug device at one end and a strip containing several convenience receptacles at the other) and hard-wired panel systems which contained wiring in the base of portable office panels that was permanently connected to the building's power supply. Each of these solutions had certain drawbacks. Either they were inflexible and expensive to rearrange, as in the hard-wired systems and the power poles, or they represented temporary solutions which would not meet with Code approval, as in the wire managers and outlet strips. Stipulated Facts 19, 21-23, 25, 28.[16]

By the mid 1970's, then, the office furniture industry as a whole recognized the need to develop a pre-wired portable office panel which would meet with Code approval and be susceptible to frequent rearrangement by the purchaser without the involvement of a licensed electrician. Haworth introduced its "ERA 1" panel system, embodying the inventions claimed in the original patent (U.S. Patent No. 4,060,294) which led to both patents in suit, in June of 1976. Steelcase marketed the next innovation on the theme in June of 1978, also at NEOCON, when it introduced its "Series 9000" panel system, the earliest of the accused devices. Thereafter, innovations in pre-wired office panels were introduced into the market at intervals of between one and two years. Stipulated Facts 12-14.

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[16] *See also,* Wilson Tr. at 115-20; Saylor Tr. at 396-403; Siegal Tr. at 698-701; VandenHoek Tr. at 1227-29.

2. *Scope, Content and Distinguishing Features of the Prior Art.*

While each of the individual elements may have been suggested by the prior art, nothing in the prior art cited by Steelcase suggested the particular combination of elements disclosed in the Haworth patents.[17] Nor can I see any reason on the record to combine the teachings of the various prior art references in order to render Haworth's patents obvious. *Environmental Designs, Ltd. v. Union Oil of California*, 713 F.2d 693, 698 (Fed. Cir. 1983). *See also, Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051 (Fed. Cir. 1988); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985); *Lindemann Maschinenfabrik Gmbh v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462 (Fed. Cir. 1984).

The Corns patent (JX 303; U.S. Patent No. 3,362,005) teaches embedding a plurality of conductive wires in an insulating strip of nonconductive material, but does not teach the construction of an enclosed hinge device which will accommodate those conductive wires while concealing them from view. Zarley Tr. 2249-50, 2270. The Case patent, U.S. Patent No. 625,828; DX 1204, teaches the use of a flexible cord to electrically connect two railroad cars, which cord will accommodate relative movement

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[17] Claims 5 and 29 of the '008 patent are supported by the disclosure in the original Haworth '294 patent, and prior art for those claims may thus be determined by the filing date fo the '294 patent, or September 22, 1975. 35 U.S.C. § 102(b) (invention patented or described in printed publication or in public use or on sale more than one year prior to patent application date). Prior art of the type specified in 35 U.S.C. § 102(a) (invention known or used in this country, or patented in any country before the applicant's invention) would have to have an effective date of May 29, 1975 to be relevant, since it appears that the Haworth invention was essentially complete by the May 30, 1975 meeting between Richard Haworth, Charles Saylor and patent counsel, Dale Thiel. At that meeting, Thiel was instructed to begin the patent application process.

between the cars. Case does not teach, however, the embedding of conductive wires in a hinge mechanism or the use of electrical connections of differing configurations at each end of the cord, so that the ends of the cord will mate with only one of the sockets placed on the cars. Nor does Corns involve a wall structure, portable or otherwise. Zarley Tr. 2247-49, 2267. These patents are thus distinguishable from the Haworth patents because Haworth teaches the use of a hinge mechanism to conceal conductive wires while permitting angular movement between adjacent panels. Haworth avoids the use of flexible cord to accomplish electrical connections between panels and involves a portable wall or panel system. I find, therefore, that neither Corns nor Case render the Haworth patents in suit obvious.

Similarly, the Herbenar patent, U.S. Patent No. 3,590,135; DX 1207, is distinguishable from the Haworth patents. Herbenar disclosed, *inter alia*, an electrical distribution system for a suspended ceiling to facilitate the electrification of lighting elements which are suspended from that ceiling. Zarley Tr. at 2252. The invention involves the use of grid work above the suspended ceiling panels. Grid members are attached at either end to junction boxes which are attached to other grid members. Conductive wires run through the grid members, and these wires connect (via conventional plug and socket means) to the junction boxes. Zarley Tr. 2253-55. The junction boxes also feature a second set of openings to receive power cables from the lighting fixtures which will be suspended from the grid work. These openings are not identical to the openings intended to receive power cables from the grid members, although the openings intended to receive power cables from the grid members are identical on the various junction boxes. Zarley Tr. at 2255-56.

The Herbenar patent does not render the Haworth patents in suit obvious for several reasons. First, it

does not disclose the use of cooperating hinge parts which allow the various ceiling panels to be angularly adjusted relative to each other. Indeed, the ceiling panels disclosed in Herbenar are intended to remain stationary at all times, while the panels disclosed in the Haworth patents are intended to be portable and easily moved relative to one another. In addition, although the wires are enclose within the Herbenar grid members, the grid members themselves are not enclosed within the ceiling panels. Zarley Tr. at 2274. In the Haworth disclosures, the raceways or channels containing the electrical wires are disposed interiorly of the various wall panels.

The disclosure made in JX 1008, a brochure describing the Steelcase Movable Wall System, also does not render the patents in suit obvious. Steelcase's Movable Wall System was a "hard wired" system, which utilized hinges to mechanically connect adjacent panels. Zarley Tr. at 2241; JX 1008. It provided channels at the bottom of each panel to accommodate electrical and communications wiring (in separate channels) which channels were contained within the side walls of the panels. Zarley Tr. at 2242. Duplex electrical outlets are located on each panel and each panel contains a junction box. Zarley Tr. at 2243. The channels conceal the wiring from view, and a special plate or "base cover" is provided to conceal wires at the junctures between the panels. Zarley Tr. 2246. The Haworth patents may be distinguished from the Steelcase Movable Wall disclosure because Haworth does not utilize "hard wiring" and wires are concealed from view at the junctures between panels by embedding them within the hinge mechanism, rather than by placing a separate plate over otherwise exposed wires.

The disclosure made in the Siegal patent, U.S. Patent No. 3,841,042, JX 299, does not render the patents in suit obvious because Siegal teaches the use of flexible cords and conventional electrical components to accomplish handed electrical connections between adjacent

panels. JX 299, fig. 8. Claims 5 and 29 of the '008 patent specify a non-handed connection. Siegal further discloses the use of a splined post and panels with corresponding ridges to accomplish the mechanical connections between panels. JX 299, figs. 2, 6. At the junctures between panels, the flexible cords are always partially visible. *See, e.g.*, DX 1054; Siegal Tr. at 948-50. Claims 5 and 29 of the '008 patent require that the electrical connector be integrally associated with, and substantially flush with the sides of the panel. The electrical connections utilized in Siegal are conventional, male and female plug and socket devices. JX 299; fig. 4. The raceways which contain the power distribution system are themselves "handed," in the sense that power may flow through them in only one direction. Siegal Tr. at 1006-08. In order to change the direction of the power flow, one must disconnect the raceways from the panels and reverse them. Siegal Tr. at 853-54. The convenience receptacles located on the exterior of each raceway are identical to the female socket means located inside the raceways.

The Haworth patents may thus be distinguished from Siegal on many grounds. The Haworth system is non-handed.[18] It does not employ flexible cord to accomplish electrical connections, nor does it make use of conventional plug and socket means in order to make those connections. The various electrical connection means are not identical, as they are in the Siegal system. *See*, claim 26 of the '733 patent. As claim 18 of the '733 patent discloses, the Haworth inventions conceal wires at the junctures between panels by embedding them in a hinge de-

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[18] Steelcase argues that non-handedness was an obvious design choice, as opposed to a patentable innovation. While the concept of the non-handed electrical connections was well known in the relevant time period, the method for translating concept to reality was not. Haworth provided the first pre-wired, non-handed office panel. It thus achieved what others had not. The means by which it accomplished this goal is not a design choice, but an invention.

vice. In addition, Siegal does not incorporate or anticipate a power block comprising a box-like housing with four separate openings, two of which have different geometrical configurations.

3. *Secondary Considerations.*

Steelcase argues that evidence of "secondary considerations bearing on obviousness" ought not be considered by this Court since Haworth has failed to demonstrate the required nexus between the allegedly infringed features of the Haworth inventions and the commercial success of the ERA 1 product. *See, Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983) ("A nexus is required between the merits of the claimed invention and the evidence offered, if that evidence is to be given substantial weight enroute to conclusion on the obviousness issue"). The principal "secondary considerations" which support findings of non-obviousness are: (1) whether the invention was commercially successful; (2) whether the invention represented a solution to a previously unsolved, but recognized problem in the industry; and (3) whether others had tried to devise a solution to that problem and failed. *See, e.g., Alco Standard Corp. v. Tennessee Valley Authority*, 808 F.2d 1490, 1500 (Fed. Cir. 1986); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546 (Fed. Cir. 1984); *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d at 1538-40. As the court indicated in *Alco Standard*, "Prior art, however, cannot be evaluated in isolation, but must be considered in light of the secondary considerations bearing on obviousness." 808 F.2d at 1499-1500. The point was more dramatically made in *Stratoflex*, where the court held, "It is jurisprudently inappropriate to disregard any relevant evidence on any issue in any case, patent cases included. Thus evidence rising out of the so-called 'secondary considerations' must always when present be considered en route to a determination of obviousness." 713 F.2d at 1538.

Steelcase argues that Haworth failed to show that the commercial success of its ERA 1 product was attributable to the power system that is the subject of the patents in suit. While it may be true that other features of the panel system contributed to its commercial success, it cannot be doubted that Haworth's introduction of a pre-wired, non-handed panel power distribution system also contributed to the success of the product.[19] The other features of the Haworth panel, such as its accoustical properties and steel frame construction, had been present in other panels for quite some time. Haworth has demonstrated the proper nexus between the claimed invention and the secondary considerations it advances.

Finally, I cannot accept Steelcase's argument that the features which distinguish Haworth over the prior art devices cited were "obvious choices of design" rather than patentable innovations. Certainly, the need to de-

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[19] Gerrard Haworth testified that, prior to ERA 1's introduction to the market, Haworth's annual sales volume was about $10,000,000.00. G. Haworth Tr. at 78. By 1986, that figure had increased to $308,000,000.00. *Id.* at 79. Mr. Haworth further testified that approximately 55% of the company's total sales were related to panels and that about half of the panels sold are pre-wired. *Id.* Charles Saylor testified to the public reaction when ERA 1 was introduced at NEOCON in 1976. He testified that the Haworth showroom displaying the product was "a mob scene," and that, "Everyone was pretty excited about it . . . it was a hit." Saylor Tr. at 451.

As the parties agree, free standing office panels had been on the market for years. In fact, Haworth had been selling wood-framed partitions since the early 1960's and had failed to attract a significant degree of market attention. G. Haworth Tr. at 69-75. While the fire safety and accoustical features of the ERA 1 panel contributed to its success, I am unwilling to conclude that the product's enthusiastic reception and market success was unrelated to its power system. Other panels on the market had fire safety and accoustical features. Witting Tr. 610-612. Quite simply, the power system was the only truly new feature of the ERA 1 panel. I conclude that at least a portion of ERA 1's commercial success is attributable to its pre-wired power system.

velop a non-handed, pre-wired office panel was well-known in the industry at the time the Haworth invention was made. VandenHoek Tr. at 1250-54; Wilson Tr. at 508. However, this shows only that the problems were well understood in the office furniture industry. It does not show that anyone, including Steelcase, was able to devise an acceptable solution to those problems before the Haworth inventors did. Steelcase designed a panel system which incorporated, among other things, hinges to make the mechanical connections between panels. But it was unable to devise a method for pre-wiring those panels until after the Haworth invention was on the market. Much of the prior art cited by Steelcase predates its own Movable Wall System, yet that product was unable to avoid "hard wiring." Siegal also provides evidence that the Haworth system was not obvious. Siegal testified that he attempted to solve the various problems noted by office furniture manufacturers in his Modulo 3 system, but he was unable to avoid the use of flexible cords or to devise a method for concealing those cords at the junctures between panels. Siegal Tr. at 694-95.

In short, the long recognized need in the industry for a panel system similar to the one devised by Haworth, as well as the commercial success Haworth's panel system had when it was introduced, SF 46, indicate to this Court that the invention, while it incorporated well-known design choices to solve problems long recognized in the industry, represented an innovation which no one, prior to the Haworth inventors, had been able to devise. Thus, I find that Steelcase has failed to prove by clear and convincing evidence that the innovations disclosed in the Haworth patents would have been obvious to one reasonably skilled in the art at the time the invention was made. I conclude, therefore, that the patents in suit are not rendered obvious by the prior art cited by Steelcase, and are thus not invalid.

Conclusions of Law: Vagueness.

Steelcase's final argument for invalidity is that the claims in the patents in suit are too vague and prolix to distinctly define the invention claimed, and that they are invalid for that reason. I can find no basis in the record to substantiate this claim. While the claim language employed by Haworth is somewhat thick, it is no denser than the language in other patents cited to the Court. *Compare* JX 1002-1003 *with* PX 10, PX 291, JX 299. Certainly, Haworth might have employed more common diction in drafting its claims, and might have more carefully defined certain terms, such as "power block," which are coined in the patent, but the fact that the drafting could have been better cannot, standing alone, invalidate an otherwise unobjectionable patent. I find, after reviewing the claim language employed by Haworth, that the claims are clear enough to meet the standards imposed by 35 U.S.C. § 112 and 35 U.S.C. § 282(3).[20] A person reasonably skilled in the relevant arts of mechanical and electrical engineering could understand, from reviewing the claims and specifications, what matter is patented and what is not. *See, Standard Oil*, 774 F.2d at 453. Steelcase has failed to meet its burden to show by clear and convincing evidence that the patents in suit are invalid for the reason that they fail to distinctly define the invention claimed.

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[20] 35 U.S.C. § 112 provides in pertinent part;

> The specification shall contain a written description of the invention . . . in such full, clear, concise and exact terms as to enable any person skilled in the art . . . to make and use the same. . . . The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor regards as his invention. . . .

35 U.S.C. § 282(3) provides that the "invalidity of the patent or any claim in suit," on the ground that it does not comply with § 112 is defense to an infringement claim.

Infringement

Conclusions of Law.

The applicable statutory provision for patent infringement, 35 U.S.C. § 271(a), provides:

> (a) * * * whoever without authority makes, uses or sells any patented invention, within the United States during the terms of the patent therefore, infringes the patent.

Noninfringement may be asserted as a defense. 35 U.S.C. § 282(1).

The patent owner bears the burden of proving infringement by a simple "preponderance of the evidence." *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1123 (Fed. Cir. 1985). The patent order must show that the alleged infringer has "made, used, or sold" a device coming within the scope of the patent claims in suit. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983); *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1361 (Fed. Cir. 1983). Haworth therefore bears the burden of proof to establish infringement by a preponderance of the evidence.

"The infringement inquiry is broken down into two steps: first, the scope of the claims must be ascertained and then the trier must decide whether the claims cover the accused device." *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985). The first is a question of law; the second is a question of fact. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983). "Generally, particular limitations or embodiments appearing in the specification will not be read into the claims." Hence, the asserted claims are not to be limited by reading into them the specific structure described in the specification and drawings of the patents in suit.

Infringement is not determined by a comparison between parts of the description in a patent and the accused process or product or by a comparison between the patentee's and the accused's commercial products. It is determined by a comparison of the claimed invention and the accused product. *Amstar Corp. v. Envirotech Corp.*, 730 F.2d 1476, 1481 (Fed. Cir.) *cert. denied*, 469 U.S. 924 (1984); *Windsurfing International, Inc. v. AMF, Inc.*, 782 F.2d 995, 999 (Fed. Cir.) *cert. denied*, —— U.S. ——, 106 S.Ct. 3275 (1986).

A patent claim is interpreted in the light of its own language, the other claims, the prosecution history, the prior art, and particularly the patent specification, but not in light of the accused products themselves. *SRI International v. Matshushita Electric Corp. of America*, 775 F.2d 1107, 1118 (Fed. Cir. 1985) ("SRI"). The determination of infringement normally involves an initial inquiry into whether the accused product literally corresponds to the precise language of the asserted patent claims. In order to establish literal infringement, every element of the claimed invention, or its substantial equivalent, must be present in the accused device. *Lemelson v. United States*, 752 F.2d 1538, 1551 (Fed. Cir. 1985). If there is no literal infringement to the claim language, then the Court may consider whether or not to apply the doctrine of equivalents. *Graver Tank and Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607-08 (1950). The doctrine, however, if applied, may not be used to "erase a plethora of meaningful structural and functional limitations of the claim." *Perkin-Elmer Corp. v. Westinghouse Electric Corp.*, 3 U.S.P.Q. 2d 132 1, 1324 (Fed. Cir. 1987). Equivalence is not established simply by showing accomplishment of the same result, because results are abstractions which cannot be patented. *Texas Instruments, Inc. v. U.S. Int'l Trade Comm.*, 805 F.2d 1558 (Fed. Cir. 1986) ("*Texas Instruments*"); *Sealed Air Corp. v. U.S. Int'l Trade Comm.*, 645 F.2d 976, 985 (CCPA 1981) ("*Sealed Air*"). Rather, the proponent

of infringement under this doctrine must show that the accused device "performs substantially the same function [as the disclosed invention] in substantially the same way to obtain the same result." *Graver Tank*, at 608. *See also Datascope Corp. v. SMEC Inc.*, 776 F.2d 320, 325-26 (Fed. Cir. 1985); *Atlas Powder Co. v. E.I. duPont de Nemours & Co.*, 750 F.2d 1569, 1579 (Fed. Cir. 1984).

Texas Instruments is one of the most recent Federal Circuit authorities on the doctrine of equivalents. In that case, the court first held that the patent at issue was a pioneer patent, but it then held that the patent was not infringed under the doctrine of equivalents. The court's rationale is even more applicable here because the Haworth patents are not pioneers:

> While the prior art and prosecution history are necessary considerations in applying the doctrine of equivalents, they do not of themselves control the breadth of equivalents available under the doctrine. * * * The determination of equivalency by its nature is inimical to the basic precept of patent law that the claims are the measure of the grant. The doctrine of equivalents, ubiquitous since its origin . . . exists *soley* for the *equitable* purpose of "prevent-[ing] an infringer from stealing the benefit of an invention." *Graver Tank*, 339 U.S. at 608. To achieve this purpose, equivalency is judicially determined by reviewing the content of the patent, the prior art, and the accused device, and essentially redefining the scope of the claims. This constitutes a deviation from the need of the public to know the precise legal limits of patent protection without recourse to judicial ruling. For the *occasional pioneering invention, devoid of significant prior art*—as in the case before us—whose boundaries probe the policy behind the law, there are no immutable rules. We caution that the incentive to innovation that

> flows from "inventing around" an adversely held patent must be preserved. To the extent that the doctrine of equivalents represents an *exception* to the requirement that the claims define the metes and bounds of the patent protection, we harken to the wisdom of the Court in *Graver Tank*, that the purpose of the rule is "to temper unsparing logic" and thus to serve the greater interest of justice.

Id. at 1572. The Federal Circuit thus affirmed the trial court's finding of non-infringement. *See also, Coleco Industries, Inc. v. United States Int'l Trade Comm.*, 573 F.2d 1247, 1258 (CCPA 1978) ("*Coleco*"); *Precision*, 324 U.S. at 814; *Parmelee Pharmaceutical Co. v. Zink*, 285 F.2d 465, 471 (8th Cir. 1961) (Judge now Justice Blackmun) ("But the mere presence of equivalency is not in itself enough to warrant invocation of the doctrine nor does it necessarily equate with infringement.") Under the "reverse doctrine of equivalents" there is no infringement when the accused products are "so far changed in principle" from the patent claims that they perform "a similar function in a substantially different way." *SRI*, 775 F.2d at 1122-25.

A patentee is estopped to rely on the doctrine of equivalents to make out a case of infringement when there is no literal infringement, if the patent claim in question was amended during prosecution to add limitations which narrowed the claim. "The doctrine of prosecution history estoppel precludes a patent owner from obtaining a claim construction that would resurrect subject matter surrendered during prosecution of his patent application." *Hughes*, 717 F.2d at 1362; *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 793 F.2d 1279, 1284-85 (Fed. Cir. 1986).

The doctrine of equivalents will not be applied where the asserted range of the claims would then also encompass the prior art. When a patent is not pioneer, but merely improves or optimizes a class of matter in the

prior art, the patent may not be used to prevent others from practicing other variations of the prior art. *Sealed Air*, 645 F.2d at 984, 985 (CCPA 1981) (the "patent . . . discloses a process earlier performed . . . [O]thers are entitled to practice variations of the old process"). The alleged infringer need not be practicing the prior art for the doctrine of equivalents to be barred. *Texas Instruments*, 805 F.2d at 1558. An applicants' statements as found in the prosecution history, not only define the patents' terms, but also set the barriers within which the claim's meaning must be kept. *Autogiro Co. of America v. United States*, 384 F.2d 391, 399 (Ct. Cl. 1967). A patentee having argued a narrow construction for his claims before the PTO is precluded from arguing a broader construction for the purposes of infringement. *Coleco*, 573 F.2d at 1257; *Seattle Box Co. v. Industrial Crating and Packaging Inc.*, 731 F.2d 818, 829 (Fed. Cir. 1984). The courts have refused to undertake the speculative inquiry as to whether such arguments were necessary. *Kinzenbaw v. Deere and Co.*, 741 F.2d 383, 389 (Fed. Cir. 1984) *cert. denied*, 470 U.S. 1004 (1985); *Prodyne Enterprises, Inc. v. Julie Pomerantz, Inc.*, 743 F.2d 1581, 1583 (Fed. Cir. 1984).

A fundamental tenant of patent policy is that a patent is a teaching tool which others may use as a foundation for developing newer and better products, beneficial to the public. Indeed, a fundamental purpose of the claims is to precisely demarcate where others may or may not endeavor. *General Electric Co. v. Wabash Appliance Corp.*, 364 U.S. 364, 369 (1938). Therefore, as the Federal Circuit has recently restated, the doctrine of equivalents cannot be utilized to block progress. "We caution that the incentive to innovation that flows from 'inventing around' an adversely held patent must be preserved." *Texas Instruments*, 805 F.2d at 1572; *State Industries, Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1235-36 (Fed. Cir. 1985). ("One of the benefits of a patent system is

so-called 'negative incentive' to design around a competitor's products . . .").

Haworth's power block for the ERA 1 system is a boxlike housing which is located between the panel sides and wide enough to fill the space between them so as to be flush with them. JX 1041 A-B. It decoratively forms an integral part of the panel design. Wilson Tr. at 503. It has sets of openings or sockets to receive the plugs of the flexible connector. It also has other sets of openings or sockets establishing an obligatory convenience receptacle on each side of the panel.[21] The Steelcase Series 9000 design avoids these features. JX 61. It uses instead a powerway accessory with flat, plate-like J-connectors at each end. PX 60A. The connectors are hidden from view in use, and are not an integral part of the panel, decoratively or otherwise. The J-connectors have protruding insulated plugs, for the insulated sockets on the ends of the panel-to-panel connector. In further contrast to the Haworth design, the J-connectors have removable and relocatable receptacles, and not obligatory receptacles. The Steelcase Series 9000 panels also feature a different type of panel-to-panel connector. Haworth's flexible connector is a hard plastic shell, fixed-pivot hinge device with plugs at each end, readily visible and flush with the panel sides when in use. DX 1041. By contrast, the Steelcase connector is an overmolded twistable and bendable device with insulated sockets at each end, essentially hidden while in use. PX 61.

Steelcase successfully avoided the Haworth design, and uses instead features that are so far changed in principal that, while they may perform a similar function, they do so in a substantially different way. The most telling evidence of this is the fact that Haworth eventually

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[21] Later Haworth designs featured receptacles on each side of the power block or on one side only. Haworth also manufactures power blocks which do not include receptacles. Wilson Tr. at 499-503.

abandoned the hard shelled, fixed-pivot design and developed a flexible strap design similar to that employed in the Steelcase Series 9000 panels. JX 1043. While Haworth's first drawings for the ERA 1 panel-to-panel connector utilized this design, the patent disclosed, and Haworth marketed the design described above. The fact that Haworth considered and rejected the use of a flexible strap design is not enough to show that Steelcase's adoption of such a design is an infringement, especially where, as here, the use of cooperating hinge parts is specified in the claim and is one of the primary features distinguishing the Haworth invention over the prior art.

Haworth adopted the flexible strap design in its Tri-Circuit panel, introduced in 1979, and in The Power Base panel introduced in 1986. JX 1043; JX 1121. The TriCircuit included flat, plate-like terminals instead of wide boxlike power blocks. These terminals are hidden from view and are not decoratively a part of the panel. These terminals also had protruding plugs for the flex connector, and they were fixed to the ends of a removable powerway rather than being fixedly mounted as an integral part of the panel as in ERA 1. JX 1116-1117. The terminals accommodated removable and relocatable receptacles, instead of the two obligatory receptacles integrally formed in the power block of the Haworth patents. The panel-to-panel connector was also different. Haworth recently went to an overmolded twistable and bendable panel-to-panel connector instead of ERA 1's hard shell fixed pivot device. The revised panel-to-panel connectors were essentially hidden from view in use, rather than being decoratively part of the panel.

Haworth wrote the claims in its patents and is confined to the language limitations it selected. Those limitations cannot be disregarded. For example, all four asserted claims require a pre-wired panel in which the electrical power blocks are "fixedly mounted on" the panel. The claim limitation "fixedly mounted" is other-

wise unqualified, definite and positive. It does not mean only that the power blocks are removable from the panels. When Haworth wanted to define something different in some of the other patent claims, it used the broader term "fixedly but removably connected." JX 1002, '733 reissue patent, non-asserted claim 10. The electrical components of the accused Steelcase panels were designed to be fundamentally different optional accessories, which are not fixedly mounted as part of the panels. Instead, they are "fixedly but removably connected" to the panels. Unlike the panels described and claimed in the Haworth patents, the Steelcase panels may be used with or without the electrical components. This fundamentally different feature of the Steelcase panels thus avoids infringement of the deliberately selected language of all four asserted claims.

Another example of Haworth's limiting language is the use of the terms "plug" or "plug means" to define the connectors on each end of the flex connector, and "socket" or "socket means" to define the cooperating connectors of the power blocks on the panels in the asserted claims. When Haworth wanted to define these cooperating connectors differently, it broadly claimed a "quick connect-disconnect" electrical connector. JX 1002, '733 reissue patent, non-asserted claims 31, 38 and 43. The electrical connectors on the accused Steelcase panel-to-panel connectors and J-connectors are *not* plugs and sockets, respectively. Instead, they are of the industry recognized quick connect-disconnect type. JX 69. Thus, another important feature of the Steelcase panels does not respond to the selected claim language.

Haworth itself recognizes that the language of its patent claims must be considered in detail, and cannot be disregarded. Asserted claims 18 and 26 of the '733 reissue patent require that the power block must be disposed "directly adjacent" or "adjacent" the opposite vertical edges of a panel, respectively, whereas claims 5

and 29 of the '008 patent merely require that the power blocks be "approximately adjacent" the opposite vertical edges of a panel. In the accused Steelcase Series 9000 and Valencia panels, the J-connectors on the powerway are 2 or 3 inches inward from the opposite vertical edges, whereas in the Movable Walls panels the J-connectors are spaced inwardly some 9 inches from the opposite vertical edges of the panel. *Compare* DX 1212 *and* DX 1214. Because of this difference, Haworth asserts all four claims against the Series 9000 and Valencia panels, but asserts only claims 5 and 29 ("approximately adjacent") of the '008 patent against the Movable Walls panels in which the J-connectors are remote from the panel edges.

Scope of '733 Claims.

Claim 18 of the '733 patent is directed primarily toward the panel-to-panel connector used to electrically connect adjoining panels. This claim requires the presence of a portable panel of: (1) a raceway means fixed to a horizontal edge of the panel, extending along the panel longitudinally and defining "a longitudinally extending interior passageway"; (2) a pair of "power block means fixedly mounted on each" panel, adjacent to and aligned with the opposite ends of the raceway and "being disposed directly adjacent the opposite vertical edges of" the panel; (3) electrical socket means associated with the power blocks; (4) electrical cable means running through the raceway connecting the power blocks via their socket means; (5) a "flexible electrical connector means for electrically connecting" power blocks on adjacent panels, the flexible connectors having on either end "electrical plug means adapted for reception within the socket means associated with [each] power block"; and (6) the flexible connector must permit relative angular movement between the panels "about a substantially vertically extending hinge axis." The flexible connector itself is described as follows:

said flexible electrical connector means including first and second housing elements having cooperating hinge parts formed thereon and defining said hinge means, said hinge parts defining a substantially vertically hinge axis which is approximately aligned with the hinge axis defined by the securing means, and said first and second plug means being associated with said first and second housing elements respectively.

See, JX 1002; Wilson Tr. 282-309.

Claim 18 of Haworth's '733 reissue patent is not infringed by the accused Steelcase Series 9000 or Valencia panel electrical components because they do not have the claimed "electrical power block means," or their equivalent, which are "fixedly mounted" and "disposed directly adjacent the opposite vertical edges" of the panels, and which also have "electrical socket means" associated therewith. They further do not have flexible electrical connector means including first and second "electrical plug means adapted for reception within the socket means" associated with the power block means, nor do they have a flexible electrical connector means which includes first and second housing elements "having cooperating hinge parts formed thereon" and defining a "substantially vertical hinge axis" and the first and second "plug means" associated with the housing elements.

By contrast, the accused Steelcase panel-to-panel connectors are overmolded twistable and bendable units with no fixed hinging axis in any direction. VandenHoek Tr. at 1286-93. The Steelcase panel-to-panel connector is, thus, so far changed in principle from a fixed pivot axis hinge arrangement that it performs a somewhat similar function in a substantially different way. The "U" shaped deviation in the middle of Steelcase's panel-to-panel connector does not comprise a hinge because bending occurs throughout the "U" shaped deviation, rather

than "about a substantially vertically extending hinge axis," as described in the claim. *Id.* at 1287; 1292. Further, the Steelcase connector does not have "cooperating hinge parts," as does the claimed invention, because Steelcase's connector is comprised of a single overmolded strap like unit. *Id.* at 1286. As indicated above, the Steelcase electrical components are not "fixedly mounted" to the panels as required by this claim. Rather, they are "fixedly but removably connected" to the panels.

Haworth is estopped by the prosecution history of Claim 18 in the reissue application from asserting that the accused Steelcase panels and panel-to-panel connectors do the same work in substantially the same way to accomplish substantially the same result. Claim 18 resulted from a combination of claims 8, 12 and 18 of the original '294 patent, and the added limitations requiring plugs on the ends of the flex connector and discrete cooperating hinge parts which define a specific hinge axis have no permissible range of equivalents. Further, Haworth relies on the presence of hinge means to distinguish its invention over the prior art. This feature of the Haworth flexible connector is one of the significant features distinguishing it from the Corns, Case and Herbenar patents referred to earlier. Haworth may not rely upon this feature to indicate the validity of its patent, and then disregard it to establish infringement. I find, therefore, that Haworth has failed to prove by a preponderance of the evidence that Claim 18 of the '733 patent is infringed by the accused devices.

Claim 26 of Haworth's '733 reissue patent requires the presence of "a pair of electrical power block means" which are "fixedly mounted" on a panel "adjacent the opposite vertical edges" of the panel. The power block means must comprise a "boxlike" housing which has: (1) a "first opening means formed in an end wall" of the housing, to permit an electrical cable means to project

through the housing and engage electrically conductive elements within the housing; (2) a "second opening means formed in a sidewall" of the housing "and cooperating with the electrically conductive elements for defining" a first plug receptacle; (3) a third opening means formed in the housing to define "a second electrical socket means" (or second plug receptacle) designed so that the plug which mates with the first plug receptacle will not mate with the second plug receptacle and vice versa; and (4) a fourth opening means "for permitting an electrical supply conduit to project into said housing for connection to said electrically conductive elements." JX 1002; Wilson Tr. at 244-54.

This claim is not infringed by Steelcase's 9000 or Valencia panel electrical components, because those components do not comprise the required "boxlike" housing. Rather, the Steelcase structure is a flat, plate-like unit. JX 60 A. This is true even if one considers the Steelcase component with the removable receptacles attached; it is even more obvious when one considers the component with the receptacles removed. Second, while the claim requires that the power block contain several plug receptacles or socket means, the Steelcase device features projecting insulated plugs, rather than sockets, which mate with corresponding sockets found on the Steelcase panel-to-panel connectors. VandenHoek Tr. at 1293-95; Speet Tr. at 2188; 2218.

Haworth is estopped by the prosecution history of claim 26 in the first application from asserting that the accused Steelcase panels and J-connectors, with or without receptacles do the same work in substantially the same way to accomplish substantially the same result. Claim 26 was amended during prosecution to add the narrowing limitations "first socket means defining a first plug receptacle" and "second socket means defining a second plug receptacle" in the unitary boxlike housing so that "the plug which mates with said first plug receptacle

will not mate with said second plug receptacle" in that housing, and there is no permissible range of equivalents for those features. While it is true that the various plug and socket devices on the Steelcase J-connectors are not identical, the electrical connection means on the J-connector are more accurately described as "plugs" rather than as "sockets." *See, e.g.*, VandenHoek Tr. at 1293-95. Claim 26 requires the presence on the "power block means" of sockets of plug receptacles, and these are simply absent from the Steelcase devices. Thus, I find that Haworth has failed to prove by a preponderance of the evidence that Claim 26 of the '733 patent is infringed by the accused devices.

Scope of the '008 Claims.

The second patent in suit is Haworth's U.S. Patent No. 4,370,008 (JX 1003; "'008"), entitled "Wall Panel with Prewired Power System." The '008 patent is the result of a second continuation application filed on Haworth's original '294 patent. Claims 5 and 29 of the '008 patent are allegedly infringed by the accused Steelcase devices. Both claims relate generally to improvements in the power means for an interior wall system composed of a plurality of serially connected portable wall panels. After considering each claim, I find that Haworth failed to meet its burden of proof to show infringement of either claim by a preponderance of the evidence.

Claim 5 of the '008 patent discloses an improvement in "electrical power means formed as an integral part" of an interior wall system comprised of a plurality of serially connected panels, and may be summarized as follows. Each panel features a first and second power block means "fixedly mounted" to the panel, and "disposed substantially between a pair of substantially parallel vertical planes as defined by the opposite sides of [each] panel." Each panel contains cable means which

extend between the power blocks and electrically connect them. Each power block has "identical first and second connection means integrally associated therewith," each connection means "forming one half of a separable electrical connection," and each "being spaced inwardly from the sides of its respective panel." There is an electrical connector means which extends between and electrically connects power blocks on adjacent panels; "said electrical connector means including a pair of substantially identical third connection means joined by a center portion which permits" angular adjustment among the adjacent panels while the electrical connector means remains "releasably engage[d]" with the first or second connection means on the power blocks of each panel. When the electrical connector is joined to opposite power blocks, it is "disposed substantially between or flush with parallel vertical planes as defined by the opposed sides" of the panels. The third connection means on the electrical connector is "releasably engage[d]" with the first connection means which is similarly engaged with the power block on the adjacent panel, so that the two panels are electrically connected. The electrical connector means may be joined to either the first or the second connection means on the power block, but not to both at the same time. JX 1004; Wilson Tr. at 223-24.

Claim 29 of the '008 patent discloses an improvement in the means for distributing electrical power between serially connected wall panels, and may be summarized as follows. Each panel features a first and second power block means, which are "fixedly mounted" on the panel "approximately adjacent to the opposite vertical ends thereof" and between the vertical sides of the panel. Cable means electrically connect the power blocks on each panel. Each power block has "first and second multiconductor electrical connectors integrally associated therewith," which define one half of a separable electrical connection, and which are spaced inwardly from the sides of

the panels. The first and second electrical connectors on each power block are identical. There is an electrical connector means which extends between power blocks on the ends of adjacent panels for the purpose of electrically connecting adjacent panels. The electrical connector means contains: "third and fourth multiconductor electrical connectors joined together by a center portion" which will accommodate angular adjustment between the panels and which may be connected to either the first or the second power block means on one panel but not to both at the same time. The "third and fourth multiconductor electrical connectors" form one half of an electrical connection which is completed by joining them to the connectors found on the power blocks. The electrical connection thus formed is not compatible with a conventional plug or socket. When joined to the power block, the electrical connector means is "disposed substantially between, or flush with" the sides of the panels. The third electrical connector means is "releasably slidably engageable" with the first connector on the first panel, or with the first connector on the second (adjacent) panel, but not with both at the same time. The fourth connector mates in similar fashion with the second connector on either panel. The electrical connector means and power block means are such that electrical "L" or "T" connections may be made between panels mechanically connected in that fashion. "Some of said power block means also hav[e] at least one conventional two- or three-conductor electrical sockets associated therewith and opening sidewardly of the respective panel." JX 1004; Wilson Tr. at 275-282.

Claims 5 and 29 of Haworth's '008 patent are not infringed by the accused Steelcase Series 9000, Valencia or Movable Walls panel electrical components because the accused devices do not have the claimed electrical power means "formed as an integral part" of the wall system, with "electrical power blocks" or the equivalent which

are "fixedly mounted" on the panels and which are wide enough to be "disposed substantially between" (or flush with) the sides of the panels. They further do not have electrical connector means which, when joined to an opposed pair of "power blocks," are "disposed substantially between, or flush with" the sides of the panels.

Haworth is estopped by the prosecution history of claim 5 in the first continuation application from asserting that the accused Steelcase wall systems do the same work in substantially the same way to accomplish substantially the same result. When claim 5 was first presented (as application claim 77 in the first continuation application, JX 1052, pp. 118-9), Mr. Thiel urged the PTO examiner to allow the claim because the limitation that the flexible electrical connector means be "disposed substantially between, or flush with" the sides of the panel results in structure which will "greatly improve the overall appearance of the resultant wall structure," JX 1052, p. 139, so there is no permissible range of equivalents for that feature of claim 5.

Haworth similarly is estopped by the prosecution history of claim 29 in the second continuation application from asserting that the accused Steelcase wall systems do the same work in substantially the same way to accomplish substantially the same result. Unlike claim 5, wall system claim 29 further requires that some of the power block means have a "conventional two- or three-conductor electrical socket associated therewith and opening sidewardly" of the panel. Mr. Thiel's arguments to the PTO made it clear that "associated therewith" means that the socket or receptacle is an integral part of the unitary power block, as shown in the Haworth patent drawings and described in the specification. When he argued for the allowance of claim 29 (claim 71 in the second continuation), he deliberately quoted this claim limitation and then explained that "these side or exterior sockets" of the power block "can be used solely for their

intended purpose, namely the receipt of a plug associated with [that is, an integral part of] an external device such as a typewriter and the like." JX 1053, p. 122. Later, he explained that a power block with separate sockets for flex connectors and for appliances was an advantage over Modulo 3 because its purpose was to "avoid" use of both "external side receptacles" for connecting several Modulo 3 panels to each other "since the use of such external side receptacles severely limits the overall [Modulo 3] system." JX 1053, p. 145. There is, therefore, no permissible range of equivalents for that feature of claim 29.

The accused Steelcase wall systems utilize flat, plate-like J-connectors on powerways which are optional removable accessories and not "formed as an integral part" of the wall systems. The J-connectors are not "fixedly mounted" on the panels, and they are much too narrow to be "disposed substantially between" (fill the space between) the sides of the panels. The panel-to-panel connectors in Steelcase's accused wall systems are hidden from view in use, and are not "flush with" the panel sides so they do not "greatly improve" the appearance of the panels. Steelcase's accused wall systems are so far changed in principle from the wall systems of claims 5 and 29 that they perform a somewhat similar but greatly improved function in a substantially different way.

Unenforceability

Steelcase argues that both patents in suit are unenforceable by reason of Haworth's "inequitable conduct" before the Patent and Trademark Office ("PTO"). Steelcase argues that Haworth failed to cite relevant prior art to the PTO in its original application for the United States Patent No. 4,060,294 ('294) issued November 29, 1977 on an application filed September 22, 1975. The reissue patent in suit, No. 31,733 ('733) is a reissue of

number '294. The remaining patent in suit, United States Patent No. 4,370,008 ('008) is a continuation-in-part of the application which became the '294 patent. It is undisputed that Haworth failed to cite to the Siegal patent (U.S. Patent No. 3,841,042) or to the commercial embodiment of that patent, the Modulo 3 panel system, in its original application for the '294 patent. SF 83. It is also undisputed that Haworth did cite to both the Siegal patent and the commercial Modulo 3 system in its reissue application and in the application which became the '008 patent. JX 1004, 1005. Steelcase argues, however, that the disclosures made by Haworth regarding both the Siegal patent, and especially regarding Modulo 3 were incomplete and misleading, and that an accurate description of Modulo 3 would have resulted in the rejection of both the reissue patent application and the application which resulted in the '008 patent.

Steelcase's argument attacks Haworth's conduct both during the original application and during the subsequent applications which resulted in the patents in suit. First, Steelcase argues that the Haworth inventors (Richard Haworth, Harold Wilson and Charles Saylor) were aware of the existence of Modulo 3, and of its materiality as prior art during the prosecution of the '294 patent application. Second, Steelcase argues that even if the Haworth inventors were not aware of Modulo 3 prior to the issuance of the '294 patent, they were aware of it during the prosecution of the subsequent applications, and their disclosures to the PTO concerning Modulo 3 were deceptively incomplete and intended to mislead the PTO into thinking that Modulo 3 did not anticipate the Haworth invention. Primarily, Steelcase relies upon the so-called five-point argument advanced by Haworth's patent counsel, Dale Thiel, during the prosecution of both patent applications, as evidence that Haworth sought to mislead the PTO about Modulo 3's electrical capabilities and safety features.

Conclusions of Law.

37 C.F.R. 1.56(a) imposes upon all inventors, patent counsel, and other individuals substantively involved in the preparation or prosecution of a patent application a "duty of candor and good faith toward the Patent and Trademark Office." Each such individual thus has a duty "to disclose to the Office information they are aware of which is material to the examination of the application." *Id.* Information is material, "where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent." *Id.* A violation of this duty to disclose is one way in which the defense of "inequitable conduct" may be established. If inequitable conduct is shown by clear and convincing evidence, then the patents obtained through such conduct are unenforceable. *J.P. Stevens & Co. v. Lex Tex Ltd., Inc.*, 747 F.2d 1553, 1559 (Fed. Cir. 1984); *cert. denied*, 474 U.S. 822 (1985).

The Federal Circuit has formulated a two-part test for establishing inequitable conduct. The party seeking to establish this affirmative defense must prove by clear and convincing evidence (1) the materiality of the claimed nondisclosure or false information and (2) that the applicant's omission or misrepresentation was grossly negligent or intentional. *See, Id.* at 1559-60; *KangaROOS U.S.A. Inc. v. Caldor Inc.*, 778 F.2d 1571, 1573 (Fed. Cir. 1985); *Akzo N.V. v. U.S. International Trade Comm'n*, 808 F.2d 1471, 1481-82 (Fed. Cir. 1986). As the Federal Circuit recently indicated:

> To be guilty of inequitable conduct, one must have intended to act inequitably. . . . [Proof of inequitable conduct] may be rebutted by a showing that: (a) the prior art or information was not material (e.g., because it is less pertinent than or merely cumulative with prior art or information cited to or by the PTO; (b) if the prior art or information

> was material, a showing that applicant did not know of that art or information; (c) if applicant did know of that art or information, a showing that applicant did not know of its materiality; (d) a showing that applicant's failure to disclose art or information did not result from an intent to mislead the PTO.

FMC Corp. v. The Manitowoc Co., Inc., 835 F.2d 1411, 1415 (Fed. Cir. 1987).

The requisite materiality may be shown by establishing that the omitted or misrepresented prior art or information conformed to the standard materiality in 37 C.F.R. 1.56(a). That is, by showing that a reasonable patent examiner would have considered the information important in deciding whether to allow the application. *American Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1362 (Fed. Cir.), *cert. denied*, 105 S.Ct. 95 (1984); *J.P. Stevens*, 747 F.2d at 1559. The requisite intent need not be shown by direct evidence. *J.P. Stevens*, at 1560. Gross negligence on the part of an individual with a duty to disclose is sufficient to establish intent, the proponent of inequitable conduct need not show that deliberate scheming occurred. *Id.* As the Federal Circuit indicated in *J.P. Stevens*, "Gross negligence is present when the actor, judged as a reasonable person, should have known of the materiality of a withheld reference." *Id.* at 1560. On the other hand, simple negligence or a good faith error in judgment is not sufficient to establish the requisite intent to mislead the PTO. *Id. See also, KangaROOS U.S.A., Inc. v. Caldor, Inc.*, 778 F.2d 1571, 1573 (Fed. Cir. 1985). As a general rule, there is no duty to conduct a prior art search. Thus, there can be no inequitable conduct in failing to disclose prior art or information of which one was not aware. *FMC Corp. v. Hennessy Industries, Inc.*, 836 F.2d 521, 526 note 6 (Fed. Cir. 1987); *FMC Corp. v. The Manitowoc Co., Inc.*, 835 F.2d 1411, 1415 (Fed. Cir. 1987). However,

where an applicant is aware of prior art or information, he or she cannot intentionally avoid learning of its materiality through gross negligence. "[O]ne should not be able to cultivate ignorance, or disregard numerous warnings that material information or prior art may exist, merely to avoid knowledge of that information or prior art. When one does that, the 'should have known' factor becomes operative." *FMC Corp. v. Hennessy Industries, Inc.*, 836 F.2d 521, 526 note 6 (Fed. Cir. 1987).

The decision regarding the existence of inequitable conduct thus involves a balancing of several considerations, including the degree of materiality shown, and the strength of the evidence indicating an intent to mislead the PTO:

> An applicant who knew or should have known of the art or information, and of its materiality, is not automatically precluded thereby from an effort to convince the fact finder that the failure to disclose was nonetheless not due to an intent to mislead the PTO; i.e., that, in light of all the circumstances, an inference of intent to mislead is not warranted. No single factor or combination of factors can be said to always *require* an inference of intent to mislead; yet an applicant facing a high level of materiality and clear proof that it knew or should have known of that materiality, can expect to find it difficult to establish "subjective good faith" sufficient to prevent the drawing of an inference of intent to mislead.

Manitowoc, 835 F.2d at 1416.

Materiality.

My inquiry in this case is somewhat simplified by the factual circumstances regarding the disclosure of the prior art at issue to the PTO. Steelcase argues that Haworth engaged in inequitable conduct by failing to disclose and then by misrepresenting the Siegal patent, U.S.

Patent No. 3,841,042; JX 299, and the commercial Modulo 3 panel system. I know that both Modulo 3 and the Siegal patent were considered material by at least one reasonable patent examiner since both were cited to the PTO in the reissue application and the continuation-in-part applications which resulted in the patents in suit, and since certain claims advanced by Haworth were denied on the basis of this prior art. It thus appears beyond dispute that Modulo 3 and the Siegal patent were relevant prior art to the Haworth inventions at issue. The question then is whether Steelcase has established by clear and convincing evidence that the Haworth inventors, Richard Haworth, Charles Saylor and Harold Wilson, or their patent counsel, Dale Thiel, intended to mislead the PTO, either by deliberately misrepresenting or omitting the prior art at issue or by being grossly negligent with respect to that prior art. I hold that Steelcase failed to meet its burden of proof on this issue.

Intent: The '294 Prosecution.

Steelcase relies on essentially two pieces of evidence to establish its claim that the Haworth inventors knew of Modulo 3 and its materiality to their work prior to the issuance of the '294 patent. First, Steelcase presented the testimony of Mr. Harold VandenHoek, former director of engineering at Haworth and now a Steelcase employee, who testified that prior to his departure from Haworth, in January 1976, he saw Richard Haworth holding a sample of the Modula 3 raceway together with a connecting cord. VandenHoek Tr. at 1254-59. While the Haworth inventors admit that they possessed a sample Modulo 3 raceway, they vigorously contend that Haworth did not acquire the raceway until the middle or late part of 1976, well after Mr. VandenHoek left Haworth's employ. *See, e.g.*, JX 1005 at 371-89; Wilson Tr. at 1510-15; R. Haworth Tr. at 1728-35; Saylor Tr. at 2824-2830.

I found Mr. VandenHoek's testimony in this regard credible, and I take it to establish that the Haworth inventors had access to a Modulo 3 raceway prior to January of 1976. Although they deny that VandenHoek was present when they reviewed the raceway, VandenHoek's testimony is, in all other relevant respects, consistent with the testimony of the Haworth inventors. Mr. VandenHoek described a scene wherein Richard Haworth walked down a hallway near the inventors' work stations with two pieces of the Modulo 3 raceway and a connecting cord. Mr. Haworth showed the samples to Mr. VandenHoek and, apparently, to other interested parties. The Haworth inventors insist that they saw only one piece of raceway and that they never had a connecting cord. Wilson and Saylor testified that Richard Haworth carried the raceway sample to the work stations of several interested persons, and that they examined it briefly and determined it to be irrelevant to their work. With the exception of a difference of opinion regarding the date upon which this occurred and the number of raceways involved, the two stories are consistent, which leads me to conclude that Mr. VandenHoek was present at the time.

That the Haworth inventors remember the date incorrectly does not appear to me to evidence any intentional deception. Rather, it is consistent with their testimony that they found the Modulo 3 sample to be immaterial to their invention. It is quite conceivable that one would forget the date upon which one first saw an immaterial sample of a competitive product, especially when one considers that the event occurred almost 13 years ago and that the acquisition of competitive products is, as the parties agree, a relatively common occurrence in the office furniture industry. The same may be said for the inventors' averments to the PTO that they first saw the raceway in mid or late 1976. JX 1005 at 371, 378, 384. Again, I do not find this to be credible

evidence of deceptive intent, even accepting Mr. VandenHoek's version of the events, since the affidavits at issue were signed in May of 1983, almost seven years after the inventors saw the Modulo 3 raceway.

Steelcase next relies upon the fact that another Haworth employee, Paul Widenhammer, received literature on Modulo 3 beginning in 1973, DX 1076, and apparently kept a file of this literature throughout his employment with Haworth. Prior to 1984, Mr. Widenhammer was employed as a bid estimator for Haworth. Widenhammer Tr. at 2689. Since his job required knowledge of competitive products, Mr. Widenhammer maintained files of literature from competitors after about 1970. *Id.* at 2692. He testified that other Haworth employees knew about his files but that they very rarely asked to see any of the competitive literature he obtained. *Id.* at 2693. He also testified that he did not make the existence of the files common knowledge within the company until about 1978, and that in 1980 he circulated a memo indicating the contents of his files. PX 432; Widenhammer Tr. at 2693. Mr. Widenhammer's files contained several pieces of Modulo 3 literature which were later provided to Haworth's patent counsel, Mr. Thiel. Many of those brochures were not provided to the PTO during the prosecution of either patent in suit.

Although Widenhammer's testimony establishes that at least one individual within the Haworth organization knew of the existence of Modulo 3 prior to the issuance of the '294 patent, it does not establish that any inequitable conduct occurred. Steelcase argues that Widenhammer's knowledge, and the contents of the file which he testified he never referred to, should be "imputed" to the Haworth inventors. I disagree. While Widenhammer unquestionably held important information concerning the Modulo 3 system, this fact was not known to the Haworth inventors until at least 1978, when they began the appli-

cations which resulted in the patents in suit.[22] Since the inventors had no duty to conduct a prior art search, they likewise had no duty to search their employees' files to discover information regarding prior art. *See, FMC Corp. v. Hennessy Industries, Inc.*, 836 F.2d 521, 525 note 6 (Fed. Cir. 1987); *American Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1362 (Fed. Cir.) *cert. denied*, 469 U.S. 821 (1984).

While the Haworth inventors knew of the existence of Modulo 3 prior to the issuance of the '294 patent, this knowledge did not create a "duty to inquire," as Steelcase suggests, since they had already examined the Modulo 3 system and determined it to be immaterial. Each Haworth inventor testified that he reviewed the Modulo 3 raceway and a Modulo 2 brochure, JX 1054, briefly.[23] This review satisfied each inventor that Modulo

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[22] Richard Haworth testified that, prior to about 1980, the company did not have a formal policy regarding the acquisition and maintenance of competitive literature or products, although some employees made it a practice to acquire such information. R. Haworth Tr. at 1667-68. Distribution of that information to other Haworth employees was left to the judgment of the individuals possessing it. *Id.* at 1667. He testified that it was not generally known within the company that certain individuals kept files of competitive literature. *Id.* at 1668-69. Finally, he testified that he was not personally aware of Mr. Widenhammer's files of Modulo 3 literature until August, 1978, when he made a concerted effort to find that literature at Mr. Thiel's request. *Id.* at 1669-70. This testimony, combined with that of Mr. Widenhammer, establishes to my satisfaction that the inventors had no reason to know of Mr. Widenhammer's file on Modulo 3 prior to 1978, and that they were in fact unaware of its existence. *See, e.g.*, R. Haworth Tr. at 1691; Wilson Tr. at 1571-73.

[23] *See*, Saylor Tr. at 2828-30; Wilson Tr. at 1516-32; R. Haworth Tr. at 1728-34. Each inventor testified that he had seen a brochure similar to JX 1054, and that his interest was aroused by the copy indicating that the Modulo 3 system was UL listed. Wilson Tr. at 1523-24; R. Haworth Tr. at 1714-21; Saylor Tr. at 2820-2822. Although the brochure caused Haworth to initiate a patent search for patents related to the Modulo 3 system, no further investigation

3 was essentially immaterial, because it utilized conventional electrical components and extension cords. Since the Haworth invention used newly designed electrical components, and avoided the use of flexible cord, this conclusion was not unreasonable, even though the evidence showed that none of the inventors understood all the features of the Modulo 3 system and had an incorrect understanding of other features. The Haworth inventor's conclusions were, I find, made in good faith, albeit through an overabundance of enthusiasm for the uniqueness of their own invention, and not through any intent to mislead or deceive either their patent counsel or the PTO. *See, e.g.*, Wilson Tr. at 1564-71.

Steelcase's argument regarding inequitable conduct in the prosecution of the original patent must rely upon inequitable conduct by the Haworth inventors, rather than upon similar conduct by their patent counsel, since it is clear that Mr. Thiel did not know of the existence of Modulo 3 until April 1976, when he was shown a Modulo 3 brochure and was soon thereafter requested to conduct an assignment search for patents issued to Tiffany Industries and Modulo 3. SF 90; JX 1061. Thiel understood that the search related to the '294 patent, but had no further details regarding the electrical features of Modulo 3. SF 82. This search, which was periodically updated until about 1978, disclosed the Siegal

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of that product was conducted. Saylor Tr. at 2822-24; R. Haworth Tr. at 1714-18, 1721-22; Wilson Tr. at 1524-25. Each inventor testified that he believed the Modulo 3 system to be immaterial to the Haworth invention because Modulo 3 was a "handed" system which used conventional extension cords and electrical components. I do not find this testimony uncredible. The Haworth inventors did not see Modulo 3 as a major competitor in the market. R. Haworth Tr. at 1691. They believed that their invention was fundamentally different from, and superior to the conventional extension cord. I can find no evidence that this belief was formed in bad faith, although one might wish that it had been formed after a more thorough investigation of Modulo 3.

patent on the Modulo 3 panel system (U.S. Patent No. 3,841,042). SF 80. Thiel reviewed the abstract of this patent, as it was published in the patent office's Official Gazette. JX 1005 at 68-69. *Id.* The abstract did not indicate that the patent included any mention of an electrical system, and Thiel let the matter drop, without reviewing a copy of the entire patent. He first saw a Modulo 3 panel in June of 1978, at the NEOCON show in Chicago. SF 83. It was at this point that Thiel first appreciated the significance of Modulo 3 as prior art to the Haworth invention. He initiated meetings with the Haworth inventors, to determine their knowledge of the system and to receive any information they might have about it from them. SF 91. After conducting some initial investigation, Thiel disclosed the existence of the Siegal patent and Modulo 3 to the PTO in the reissue application. He also withdrew a pending continuation application on the '294 patent, and filed a continuation-in-part application, which became the '008 patent in suit. SF 92. Thiel took each of these actions in order to disclose Modulo 3 to the PTO and he did so on a voluntary basis, before there was any suggestion that the validity of the '294 patent would be challenged on inequitable conduct grounds. SF 93.

In connection with the reissue proceedings, the PTO conducted an investigation into Haworth's failure to disclose the Siegal patent and Modulo 3 during the prosecution of the original '294 patent. JX 1005 at 360-415. Steelcase vigorously argues that the PTO's conclusion that Haworth did not engage in inequitable conduct is not entitled to deference from this Court, since the proceedings before the PTO were non-adversarial and were tainted by Haworth's incomplete disclosures regarding Modulo 3. Whatever the proper standard of deference to the PTO with regard to this investigation, I found no evidence at trial which indicates that the PTO's conclusion was incorrect.

The PTO examined Haworth's conduct prior to the issuance of the reissue patent, and determined that it did not amount to inequitable conduct. Specifically, the PTO considered whether the inventors and their counsel satisfied the duty of disclosure contained in 37 C.F.R. § 1.56(a)[24] and whether patent counsel fulfilled his "duty of reasonable inquiry" with regard to the Siegal patent. It found in favor of Haworth on all issues.[25]

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[24] 37 C.F.R. § 1.56 provides, in pertinent part, as follows:

(a) A duty of candor and good faith toward the Patent and Trademark Office rests on the inventor, on each attorney or agent who prepares or prosecutes the application, and on every other individual who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application. All such individuals have a duty to disclose to the Office information they are aware of which is material to the examination of the application. Such information is material where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent. The duty is commensurate with the degree of involvement in the preparation or prosecution of the application.

[25] The PTO concluded as follows:

[T]he conclusion that the Modulo 3 sample disclosed nothing more than conventional electrical connection means was not unreasonable.

Although the Modulo 3 sample should have been brought to the attention of counsel, the failure to do so based on the conclusion that it was not material in light of the information the applicants possessed is simply not clear and convincing evidence that decision was the result of any bad faith or gross negligence. There simply was no indication that the sample was any better than the brochure which had been forwarded to counsel. . . . The O.G. disclosure of the '042 Siegal patent represented by a single figure and a single claim spoke only of a mechanical panel connection means. There was no clue in the O.G. disclosure that the '042 Siegal patent disclosed any more than a purely mechanical means for connecting adjacent panels. . . . There was nothing in the O.G. to trigger a further inquiry by counsel. Therefore, counsel's failure to inquire further and

The PTO found, and I agree, that the Haworth inventors were negligent in concluding that Modulo 3 was not relevant prior art and in failing to provide that information to their patent counsel, but that their actions did not amount to the necessary gross negligence, and certinly do not indicate an intent to deceive or misinform the PTO. Rather, the Haworth inventors acted out of an over-abundance of enthusiasm for their own invention. They believed, perhaps erroneously, that their invention's

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obtain the full text of the '042 Siegal patent based on what counsel had before him . . . does not indicate a failure in his duty of reasonable inquiry. . . . [C]ounsel's conclusion that this Modulo 3 information was of no significance in the consideration of applicants' instant invention was certainly *not unreasonable* and clearly was not a product of *bad* faith or *gross* negligence.

. . . In keeping with the lessened interest in the Modulo 3 system by the applicants, after it had been determined not to be of any particular significance relative to their invention, it was not unreasonable for counsel to limit his inquiry of the Modulo 3 information to the O.G. and the brochure especially in view of what he had found therein. . . .

The failure of the applicants and the Director of Engineering to inform Counsel of the latter acquired information (the raceway sample) concerning the electrification of the Modulo 3 panels is not an act of gross negligence but rather was based upon the applicants' and the Director's erroneous conclusion adjudging . . . Modulo 3 to be non-material. While the applicants' and the Director's failing to give the information concerning the electrification of the Modulo 3 panels to Counsel, who was knowledgeable in patent matters and making the decision that such information was not material to the then pending application, was a clear error in judgment, such cannot be said to constitute *gross* negligence.

. . .

Finally, while applicants', or Counsel's and the Director of Engineering's actions or lack of action and the reasons therefore may not have demonstrated the most prudent course of action, such actions are not demonstrative of bad faith and/or gross negligence.

JX 1005 at 413-14 (emphasis in original).

departure from the use of extension cords made any system utilizing such devices completely immaterial. I find that this was an error in judgment, but an error made in good faith, and after a short, but reasonable investigation of the Modulo 3 system. Clearly, the better practice would have been for the Haworth inventors to inform their patent counsel of the details they knew regarding the Modulo 3 system, and to have let Mr. Thiel, who was experienced in such matters, determine the materiality of that prior art. However, the fact that the inventors chose not to inform Mr. Thiel of the details regarding Modulo 3, considering my finding that their decision was based upon a reasonable investigation and was made in good faith, does not amount to any inequitable conduct sufficient to render either patent in suit unenforceable.

As I understand the testimony of Mr. Thiel and the Haworth inventors, no Haworth employee explained the features of the Modulo 3 system, as they understood it, to Mr. Thiel at the time they requested the assignment search.[26] Given his limited knowledge of Modulo 3 and the apparent lack of concern on the part of his clients, Thiel's failure to further investigate Modulo 3 does not amount to gross negligence. He simply had no reason to believe that further investigation was warranted. Similarly, Mr. Thiel's failure to order a complete copy of the Siegal patent disclosed by his search did not amount to gross negligence. The abstract he reviewed gave no indication that the patent concerned the electrification of an office panel, and thus gave Mr. Thiel no indication

[26] In April of 1976, Mr. Thiel was shown JX 1061, or a similar Modulo 3 brochure, and asked to conduct a patent assignment search for patents belonging to Tiffany Industries or Modulo 3. Thiel Tr. at 1855-56. He did not become aware that the Modulo 3 system was pre-wired until July or August of 1978. Thiel Tr. at 1852-53. At the time of the initial search, he understood that his clients had a "general interest" in the raceway depicted in the brochure and in Tiffany products as a whole. Thiel Tr. at 1857-62.

that he needed to pursue the matter further. A review of the complete Siegal patent would undoubtedly have led Mr. Thiel to understand the materiality of the Modulo 3 system, and the Siegal patent, as prior art. But since he had no information at the time which would have indicated to him that either the patent or Modulo 3 were material, he had no duty to conduct a further investigation. Thus, while his conduct may have been somewhat negligent, it was not grossly negligent, nor does it indicate any intent to engage in inequitable conduct. I therefore conclude, as did the PTO, that neither the Haworth inventors, nor their counsel, nor anyone else with a duty to disclose to the PTO, violated that duty prior to the issuance of the original '294 patent.

Intent: the '733 and '008 Prosecutions.

Steelcase argues that, even if Haworth did not engage in inequitable conduct by failing to disclose Modulo 3 to the PTO during the original prosecution, its limited disclosures regarding this prior art and its alleged disparagement of the Siegal/Modulo 3 system during the '733 and '008 prosecutions render both patents unenforceable. Haworth insists that it disclosed all relevant information concerning Modulo 3 and the Siegal patent, and that its counsel's attempts to distinguish Modulo 3 from the Haworth inventions were nothing more than vigorous advocacy for his clients' interests.

As discussed above the duty of disclosure does not require that all prior art or every piece of information about prior art known to the applicant be submitted to the PTO. Rather, individuals substantively involved with a patent application must submit only material prior art of which they are aware. A prior art reference or other information which would be merely cumulative of information already possessed by the PTO is not material, and therefore, failure to disclose that information does not amount to inequitable conduct. *J.P. Stevens*, 747

F.2d at 1559-60; *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 2437, 1455-56 (Fed. Cir. 1984); *American Hoist and Derrick Co. v. Sowa and Sons, Inc.*, 725 F.2d 1350, 1362 (Fed. Cir. 1984); *Reactive Metal and Alloys Corp. v. Esm Inc.*, 769 F.2d 1578, 1583 (Fed. Cir. 1983). Information may be considered cumulative where it is less pertinent than, or adds nothing to what is already known to the examiner. *Litton Indus. Products, Inc. v. Solid State Systems*, 755 F.2d 158, 167 (Fed. Cir. 1985). Where an applicant draws prior art to the examiner's attention, and then proceeds to distinguish it from the invention at issue, an incorrect characterization of that prior art, even if in a material respect, or a failure to correct a characterization later realized to be incorrect will not amount to inequitable conduct in the absence of clear and convincing evidence of a deliberate intent to deceive. The examiner, once aware of prior art, is free to draw his or her own conclusions with regard to its materiality. Advocacy, even if somewhat overzealous, will not alone amount to inequitable conduct. *Azko N.V. v. U.S. International Trade Comm'n*, 808 F.2d 1471, 1481-82 (Fed. Cir. 1986); *Micro Motion, Inc. v. Exac Corp.*, No. C84-20681 SW, slip op. at 16 (N.D. Cal. Nov. 3, 1987).

In his prior art statement to the PTO, Mr. Thiel distinguished Modulo 3 and the Siegal patent from the Haworth inventions by using the so-called "five point argument." Thiel argued that the Haworth inventions were superior to the Siegal invention because: (a) the Modulo 3 panel was a "handed" system, while the Haworth system was not; (b) the Siegal system was incapable of making "T" or "Y" electrical connections without the use of extension cords exterior to the panels, while the Haworth system had this capability; (c) the Siegal system's use of extension cords rendered it unsafe since it was susceptible to "hot prongs" and since the use of flexible cords was prohibited by many building codes, while

the Haworth system avoided such cords; (d) the Siegal system could be joined to a building's power supply only by placing the "male" end of a panel nearest to the building's power supply, while the Haworth system avoided this problem and was thus more flexible; and finally, (e) the Siegal panels, when properly joined to the splined posts were incapable of "relative angular displacement between adjacent panels," while the Haworth panels could be moved relative to each other without disconnecting their electrical components. JX 1005 at 106-108; JX 1052 at 133-135.[27]

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[27] Steelcase argues that Thiel's equation of the commercial Modulo 3 product with the invention disclosed in the Siegal patent was improper. It is true that the patent and the commercial product are distinct prior art references. *See*, 35 U.S.C. § 102. However, we are concerned here only with *material* prior art and with non-disclosures or inaccuracies which could be considered important by a reasonable patent examiner.

Mr. Siegal's testimony disclosed some minor "errors" or inconsistencies between the drawings in his patent, JX 299, and the commercial Modulo 3 product. For example, the "snap-in snap-out" raceway is incorrectly drawn in figure 5 of the Siegal patent. Siegal Tr. at 964-65. The method of mechanically connecting panels is also incorrectly illustrated in the patent, because the patent shows the panels being connected with their raceways in place, while the Modulo 3 system was intended to be mechanically connected with the raceways attached. Siegal Tr. at 976-77. In addition, certain advertisements incorrectly depicted the connecting cord, while others correctly depicted it as having a flat, or perpendicular head, so that it would lie flat against the raceway when in place. In some brochures and advertisements, the convenience receptacles are incorrectly drawn, while in others they are not. Siegal Tr. at 999-1005. Finally, the patent does not disclose the starter channel, added to the system in about 1975 to enhance its safety. Siegal Tr. at 760-61; 808-09.

While these imperfections exist (indicating to the Court that any patent applicant, even one with seventy or eighty patents to his credit, can make a mistake in the application process) they are immaterial when considered as a whole. The examiner had brochures which accurately depicted the convenience receptacles and connecting cords. Mr. Siegal testified that he did not notice certain

At trial, Steelcase presentd the testimony of Burton Siegal, the inventor of the Modulo 3 system. Mr. Siegal discussed each of Thiel's arguments in minute detail, indicating that each argument was incorrect. Mr. Siegal testified, for example, that the Modulo 3 panel system was not "handed," rather, only its raceways were handed —one could snap off the raceway and reverse its direction in order to change the direction in which power flows through the system without moving the panel. Siegal Tr. at 854. This is certainly true, but it does not necessarily render Mr. Thiel's argument incorrect. Mr. Thiel argued that the system itself was handed, Mr. Siegal conceded that at least one major portion of the system—its raceway—was in fact handed. While Thiel's argument may have been oversimplified, it was certainly not deceptive. The examiner could have concluded from studying both the Siegal patent and the Modulo 3 brochures that the flow of power in the Modulo 3 system could be reversed by snapping off the raceway and turning it around, rather than rearranging the entire panel. While the Siegal patent's illustrations may have incorrectly disclosed the manner in which the raceways are removed from the panels, the brochures submitted to the PTO indicated-that Modulo 3 offered a "snap-in snap-off

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errors in the patent drawings until he reviewed the patent immediately prior to his testimony at trial. Siegal Tr. at 964-65. In addition, as certain photographs taken at the IBM installation indicate, not all Modulo 3 convenience receptacles were arranged as Mr. Siegal intended. DX 1268, frame 23. This may be the result of user tampering as Mr. Siegal opined, Siegal Tr. at 844-47, 941-43, or of faulty manufacturing and quality control. Siegal Tr. at 714-15. In any case, it indicates that the differences between the Modulo 3 product and the Siegal patent were not particularly striking and that they may not, for every Modulo 3 panel produced, have been differences at all. Siegal Tr. at 759-60 (no major changes in the Modulo 3 electrical system after first commercial sales). Finally, by comparing the Siegal patent to the Modulo 3 brochures, the patent examiner could have discovered each distinction pointed out by Mr. Siegal and Steelcase.

raceway system." See, DX 1065. An examiner reading the Siegal patent and the brochures together was wholly capable of concluding that (1) the Modulo 3 raceways were "handed" in the sense that power could flow through them in only one direction; and (2) that in order to change the direction in which power flowed through the system, one had to remove the raceway and reverse it, but that one could do this without moving the entire panel. While Thiel obviously overstated his case by characterizing the entire system, as opposed to only its raceways, as "handed," his argument does not rise to the level of a fraudulent deception.

The other arguments presented by Thiel were equally overstated. Thiel exaggerated the degree to which the Modulo 3 systm was susceptible to "hot prong" misuse, the ease with which the exterior Modulo 3 connecting cords could be detached, and the inability of the system to form electrical "T" and "Y" connections.[28] But again, an examiner reading the Siegal patent and studying the pictures of Modulo 3's connecting cords and raceways provided in the disclosed Modulo 3 brochures could have

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[28] As Mr. Siegal demonstrated at trial, the Modulo 3 system is fully capable of forming "L," "T," or "X" electrical connections. Siegal Tr. at 838-58. In order to accomplish any of these connections, however, the connecting cords would have to be visible and extend outside the raceways. In addition, at least one connecting cord would have to be connected to a convenience receptacle on the raceway. *Id.* at 947.

Mr. Siegal also testified that Modulo 3, when used in its intended manner, was not easily susceptible to misconnection or "hot prong" misuse, and that he was unaware of any instances of fires, meltdowns or products liability actions arising from the use or misuse of the product. Siegal Tr. at 862-65. He admitted, however, that it was possible to use the Modulo 3 system in ways never intended by its inventor or by UL. Siegal Tr. at 940-41 (failure to use starter channel); 942-44 (use of non-approved electrical components); 954-58 (use of non-approved extension cords). Certain of those non-approved uses would create "hot prongs" or other safety hazards. *See, e.g.*, Siegal Tr. at 954-58.

discovered the inaccuracies and overstatements in Thiel's arguments. Further, Thiel's arguments do not indicate an intent to deceive the PTO. They may have been overstatements, but they were not wholly without a factual basis.

For example, exterior cords on Modulo 3 panels could be easily detached or prone to fraying and other abuses if one did not use the particular cords intended for use with the system, and use of conventional extension cords would be possible with the Modulo 3 system. Siegal Tr. at 940-41; PX 481 frames 20, 24, 26, 27. Hot prongs could also be created if one used an unapproved extension cord with two male ends, although it is difficult to conceive of why anyone would choose to use such a device. The Siegal patent disclosed that electrical Ts and Ys were possible with the Modulo 3 system, and the brochures given to the PTO indicated that electrical connections could be made in any manner desired. See JX 299, fig. 8. Thiel's characterization of the Modulo 3 system as being a safety hazard was tempered by the disclosure of Modulo 3 brochures indicating that the system was "UL approved." Thiel argued that the system would not be permitted under most building codes. I cannot find that Thiel's use of the word "most," standing alone, indicates an intent to deceive the PTO. While there may have been building inspectors who approved the Modulo 3 system, it is also true that others would not have done so. Flasch Tr. at 2629; Knickrehm Tr. at 2797-98. The Siegal patent's disclosure that T and Y connections were possible similarly contradicted Thiel's argument that power could enter the system only from the "endmost panel having the male connector associated therewith," and a patent examiner studying the Siegal patent would have understood that.[29]

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[29] There was also testimony that Mr. Thiel's reference to the "endmost" panel may have been correct, if one interpreted the word to refer to the endmost panel in an electrical circuit, as

Steelcase's final argument is that Thiel attempted to deceive the PTO when he argued that Modulo 3 panels, when joined to their splined posts, could not be angularly adjusted. The Modulo 3 "Planning Guide," DX 1067, indicates that, when joined to the post, the panels are capable of angular movement within a radius of plus or minus 2.5°. Although Thiel had the Planning Guide in his possession he did not disclose it to the PTO. In a perfect world, Thiel would have disclosed this brochure to the PTO, since it is the only brochure Haworth possessed which indicated the angular adjustment capabilities of the Modulo 3 panels. On the other hand, I cannot find that his failure to do so provides clear and convincing evidence of an intent to deceive the PTO. The angular adjustment capability of the Modulo 3 system was negligible, especially when compared to that of the Haworth system. In addition, as Thiel testified, there is a certain degree of tolerance in any mechanical connection between two rigid objects, and the patent examiner would have known that from studying the Siegal patent. *See*, Thiel Tr. at 1935-39, 1967-71; Siegal Patent, Fig's 3 & 5. Given the minor degree of angular adjustment allowed in the Modulo 3 system, and the fact that a patent examiner could have discovered Thiel's overstatement by thinking about the manner in which the Modulo 3 panels are joined together, I cannot find that Thiel's argument to this effect provides clear and convincing evidence of an intent to deceive the PTO.

The same may be said for the inaccurate drawing of the Modulo 3 raceway submitted by Thiel. While this drawing inaccurately depicted the configuration of Modulo 3's convenience receptacles, and the extension cords manufactured for use with the system, those features were accurately disclosed either in the Siegal patent or in the illustrations contained in the Modulo 3 brochures sub-

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opposed to the endmost panel in a mechanically connected series of panels. Siegal Tr. at 1014-18.

mitted to the PTO. On this point, it bears mentioning that even Steelcase's patent counsel incorrectly characterized the Modulo 3 system to the patent examiner. In the course of its protest against the reissue patent, Mr. Mitchell, Steelcase's counsel, represented to the examiner that both ends of the Modulo 3 raceway, as depicted in the Siegal patent, were identical—that both had male connections. *See*, JX 1005 at 148, 219-20. I now know that this is incorrect, both as a characterization of the Siegal patent and as a characterization of the Modulo 3 system, since the raceway features a male connection at one end and a female connection at the other. This indicates to the Court that patent counsel often overstate their case in order to distinguish prior art or to otherwise advocate their position, as do lawyers in all disciplines.

While one might wish that lawyers would abandon advocacy for accuracy, or that their arguments could be more clearly conveyed, every member of the bar knows that perfection is neither attainable nor expected. Perhaps Mr. Thiel's arguments reach the edge of acceptable advocacy, but they are not so overzealous as to indicate a breach of the duty of candor. Even taken together, his arguments do not reach the level of inequitable conduct, because they were either inaccurate in immaterial ways or their inaccuracies were clearly disclosed by information already before the examiner. Perhaps Mr. Thiel could have done a better job of investigating the Modulo 3 system and of describing it to the examiner. But his job was to advocate his clients' interests and to secure them the patent they sought. It was the examiner's job to weed through the overstatements (Steelcase's as well as Haworth's) to determine whether the Haworth invention was patentable. The examiner had enough information before him to accomplish that task, counsels' arguments notwithstanding. As Steelcase argues, the level of inaccuracy involved here is probably not the

norm, nor should it be. I conclude, however, that it does not provide clear and convincing evidence of the requisite intent to mislead or deceive the PTO.

Steelcase argues that Thiel had a "duty to inquire" into the features of Modulo 3 since he should have known that the disclosures given to him about that product by the Haworth inventors were incomplete.[30] *See, FMC*

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[30] At trial Steelcase painstakingly referred to numerous Modulo 3 advertisements and listings in *Contract Magazine*, a trade publication for the office furniture industry, which indicated the features of Modulo 3 and the location of its showroom in the Merchandise Mart in Chicago. These advertisements often appeared near Haworth's (then "Modern Partitions") in the magazine, and both Modulo 3 and Haworth were listed near each other in various indices and directories published in the magazine. Haworth's showroom at the Merchandise Mart was, for a period of time, located on the same floor as Modulo 3's showroom.

Steelcase apparently intended this evidence to show either that the Haworth inventors had actual knowledge of Modulo 3's materiality or that they intentionally avoided learning of it, thus violating the duty to inquire. The Court remains unconvinced. *Contract Magazine* is made up almost entirely of advertisements for office furniture. That the inventors may have ignored those ads is not, in itself, indicative of cultivated ignorance. No one could be expected to read, much less recall, each advertisement printed in each trade publication they receive. Moreover, the inventors had no reason to give attention to the Modulo 3 advertisements because they did not perceive Modulo 3 to be a competitor. This was a reasonable conclusion, given its short-lived appearance in the field. Finally, the inventors had no reason to prowl the halls of the Merchandise Mart with the thoroughness apparently expected of them by Steelcase counsel. While one purpose for their attendance at NEOCON shows was to view competitor's products, the primary reason for their attendance was to display and sell their own products. They had no particular reason, and no legal duty, to search out the Modulo 3 showroom.

In short, the Court is not convinced that the Haworth inventors cultivated ignorance of the Modulo 3 product or that they intentionally concealed any actual knowledge of its materiality to their invention. I find, therefore, that the inventors did not violate any duty of inquiry they might have had.

Corp. v. Hennessy Industries, Inc., 836 F.2d 521, 526 note 6 (Fed. Cir. 1987). Steelcase points to the following to establish his claim. First, Thiel was forced to amend the original application to add Harold Wilson as an inventor in 1978. Second, Thiel knew that the Haworth inventors possessed a Modulo 3 raceway in 1976 and never told him about it. Third, he was asked to conduct a patent search on Modulo 3 and Tiffany Industries. Fourth, the inventors made incomplete and inaccurate sketches of the Modulo 3 raceway, and Thiel did not conduct a further investigation to determine the true configuration of that product. Instead, he made a composite sketch of the raceway, as it was explained to him by the inventors, and submitted that to the PTO. Finally, Steelcase points to the various inaccuracies in Thiel's arguments noted above, and argues that, had Thiel made the proper investigation he would have known of these inaccuracies.

I would note, first, that no decision from the Federal Circuit has ever recognized the existence of a "duty to inquire" about prior art. *See, Hennessy*, 836 F.2d at 526 (assuming, but not deciding that such a duty exists). Even assuming that such a duty can be said to exist, I am not convinced that it would have arisen in this case. Thiel disclosed the Siegal patent to the PTO, once he became aware of its materiality. He also disclosed several brochures indicating the structure of the commercially available Modulo 3 system. None of the brochures in Haworth's possession would have added materially to the examiners knowledge of that system. See, DX 1062-1065; DX 1067-1079. These brochures either repeat the same representations made in the brochures provided to the PTO, or they contain immaterial variations on the same themes. The fact that Thiel had to add Wilson as an inventor does not indicate to me that the Haworth inventors were intentionally dishonest with their counsel or that Thiel should have taken this as a clue that they were less than forthcoming in their discussions

with him.[31] Steelcase's remaining arguments were discussed above. The examiner would have known the actual configuration of the Modulo 3 raceway by studying the information before him, and the same may be said for Thiel's argument regarding T and X connections. Finally, the fact that Thiel neglected to disclose the Modulo 3 starter channel, which functioned in the same way as a circuit breaker for the system, is, I find immaterial. Such a feature would not have materially enhanced the safety or the acceptability of the system to many building inspectors. Flasch Tr. at 2629; Knickrehm Tr. at 2797-98. In short, I do not find that Thiel intentionally cultivated ignorance or disregarded numerous warnings that material information had not been disclosed to the PTO. *Hennessy*, 836 F.2d at 526 note 6. His actions did not amount to gross negligence nor did they breach any duty of inquiry he might have had.

To conclude, I found Steelcase's evidence regarding inequitable conduct by the Haworth inventors and their counsel to be unpersuasive. Certainly, one would hope that most patent applicants are more careful in their investigations of competitive products and that most patent counsel are more careful in the arguments they present to the PTO. But I am simply unwilling to conclude that either the Haworth inventors or their counsel took any action designed to deceive or mislead the patent examiner, or that their actions amounted to gross negligence. I therefore conclude that Steelcase failed to meet

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[31] Richard Haworth and Charles Saylor testified that they did not initially name Mr. Wilson as an inventor because he only refined the concept they had created. Mr. Wilson's testimony regarding his job functions corroborates this testimony, since he was hired to provide technical assistance and drafting help. It is obvious that both Richard Haworth and Charles Saylor misunderstood the definition of the term inventor, but I found no evidence that either was dishonest or intentionally deceptive in forming that understanding.

its burden to show inequitable conduct by clear and convincing evidence.

DATED in Kalamazoo, MI:

May 17, 1988

/s/ Richard A. Enslen
RICHARD A. ENSLEN
- U.S. District Judge

APPENDIX D

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MICHIGAN

File No. K85-526 CA4

HAWORTH, INC.,
Plaintiff and
Counter-Defendant,

v

STEELCASE, INC.,
Defendant and
Counter-Plaintiff.

JUDGMENT

In accordance with the written opinion dated May 17, 1988;

IT IS HEREBY ORDERED that Judgment is entered on the infringement claim IN FAVOR of Steelcase and AGAINST Haworth;

IT IS FURTHER ORDERED that Judgment is entered on the validity claim IN FAVOR of Haworth and AGAINST Steelcase;

IT IS FURTHER ORDERED that Judgment is entered on the Unenforceability claim IN FAVOR of Haworth and AGAINST Steelcase.

DATED in Kalamazoo, MI:

May 17, 1988

/s/ Richard A. Enslen
RICHARD A. ENSLEN
U.S. District Judge